

To: Nicholas J. Gallo(nytmdocket@troutman.com)
Subject: U.S. Trademark Application Serial No. 97622822 - SNOWSTORM
Sent: January 29, 2024 06:45:08 PM EST
Sent As: tmng.notices@uspto.gov

Attachments

[screenshot-cloud-google-com-hybrid-connectivity-17061161187231](#)
[screenshot-www-studionetworksolutions-com-products-17061162787731](#)
[screenshot-www-perimeter81-com-solutions-what-is-a-cloud-vpn-17061163082461](#)
[screenshot-www-perimeter81-com-global-backbone-network-17061164488061](#)
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United States Patent and Trademark Office (USPTO)
Office Action (Official Letter) About Applicant's Trademark Application

U.S. Application Serial No. 97622822

Mark: SNOWSTORM

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UNITED STATES

Applicant: Serene Han

Reference/Docket No. N/A

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FINAL OFFICE ACTION

Response deadline. File a request for reconsideration of this final Office action and/or a timely appeal to the Trademark Trial and Appeal Board (TTAB) within three months of the “Issue date” below to avoid [abandonment](#) of the application. Review the Office action and respond using one of the links below to the appropriate electronic forms in the “How to respond” section below.

Request an extension. For a fee, applicant may [request one three-month extension](#) of the response

deadline prior to filing a response and/or an appeal. The request must be filed within three months of the “Issue date” below. If the extension request is granted, the USPTO must receive applicant's response and/or appeal within six months of the “Issue date” to avoid abandonment of the application.

Issue date: January 29, 2024

Introduction

This Office action is in response to applicant’s communication filed on January 19, 2024.

In a previous Office action(s) dated July 26, 2023, the trademark examining attorney refused registration of the applied-for mark based on the following: Trademark Act Section 2(d) for a likelihood of confusion with a registered mark. In addition, applicant was required to satisfy the following requirement: amend the identification of services.

Based on applicant’s response, the trademark examining attorney notes that the following requirement(s) have been satisfied: applicant sufficiently responded to the identification of services requirement and a definite amended identification has been provided. *See* TMEP §§713.02, 714.04.

Applicant’s arguments with respect to the Section 2(d) refusal have been considered and found unpersuasive for the reason(s) set forth below. Therefore, the trademark examining attorney maintains and now makes FINAL the refusal(s) and/or requirement(s) in the summary of issues below. *See* 37 C.F.R. §2.63(b); TMEP §714.04.

Summary Of Issues Made Final

- Section 2(d) - Likelihood of Confusion Refusal

Section 2(d) - Likelihood of Confusion Refusal

Registration of the applied-for mark is refused because of a likelihood of confusion with the mark in U.S. Registration No. **6750204**. Trademark Act Section 2(d), 15 U.S.C. §1052(d); *see* TMEP §§1207.01 *et seq.* See the previously attached registration.

Trademark Act Section 2(d) bars registration of an applied-for mark that is so similar to a registered mark that it is likely consumers would be confused, mistaken, or deceived as to the commercial source of the goods and/or services of the parties. *See* 15 U.S.C. §1052(d). Likelihood of confusion is determined on a case-by-case basis by applying the factors set forth in *In re E. I. du Pont de Nemours & Co.*, 476 F.2d 1357, 1361, 177 USPQ 563, 567 (C.C.P.A. 1973) (called the “*du Pont* factors”). *In re i.am.symbolic, llc*, 866 F.3d 1315, 1322, 123 USPQ2d 1744, 1747 (Fed. Cir. 2017). Any evidence of record related to those factors need be considered; however, “not all of the *DuPont* factors are relevant or of similar weight in every case.” *In re Guild Mortg. Co.*, 912 F.3d 1376, 1379, 129 USPQ2d 1160, 1162 (Fed. Cir. 2019) (quoting *In re Dixie Rests., Inc.*, 105 F.3d 1405, 1406, 41 USPQ2d 1531, 1533 (Fed. Cir. 1997)).

Although not all *du Pont* factors may be relevant, there are generally two key considerations in any likelihood of confusion analysis: (1) the similarities between the compared marks and (2) the relatedness of the compared goods and/or services. *See In re i.am.symbolic, llc*, 866 F.3d at 1322, 123 USPQ2d at 1747 (quoting *Herbko Int’l, Inc. v. Kappa Books, Inc.*, 308 F.3d 1156, 1164-65, 64 USPQ2d 1375, 1380 (Fed. Cir. 2002)); *Federated Foods, Inc. v. Fort Howard Paper Co.*, 544 F.2d

1098, 1103, 192 USPQ 24, 29 (C.C.P.A. 1976) (“The fundamental inquiry mandated by [Section] 2(d) goes to the cumulative effect of differences in the essential characteristics of the goods [or services] and differences in the marks.”); TMEP §1207.01.

Applicant has applied to register the mark SNOWSTORM in standard characters for the following amended goods and services “Downloadable VPN (virtual private network) operating software; downloadable computer software transmission of encrypted communications; downloadable computer software which facilitates the routing of communications; downloadable computer software for encrypting communications through a secure and private connection over the Internet” in International Class 009, “Providing virtual private network (VPN) services; providing users with secure remote access via the Internet to private computer networks; transmission of encrypted communications through secure and private connections over the Internet ” in International Class 038, and for “Design and development of virtual private network (VPN) operating software; providing temporary use of online non-downloadable VPN (virtual private network) operating software; software as a service (SaaS) services featuring software for transmission of encrypted communications through secure and private connections over the Internet” in International Class 042.

Registrant’s mark is SNOWSTORM in standard characters for “Software as a service (SaaS) services featuring software for data analytics services, data integration, data management services, quality control of data, cloud computing, providing virtual computer systems through cloud computing, providing data fabric services; Computerized data storage services; Data storage, other than physical storage; Advisory services relating to computer software; Development of computer systems for the processing of data; Development of computer systems for the storage of data; Development of computer systems for the transmission of data” in International Class 042.

Similarity of the Marks

In a likelihood of confusion determination, the marks in their entireties are compared for similarities in appearance, sound, connotation, and commercial impression. *In re i.am.symbolic, llc*, 866 F.3d 1315, 1323, 123 USPQ2d 1744, 1748 (Fed. Cir. 2017); *Stone Lion Capital Partners, LP v. Lion Capital LLP*, 746 F.3d 1317, 1321, 110 USPQ2d 1157, 1160 (Fed. Cir. 2014) (quoting *Palm Bay Imps., Inc. v. Veuve Clicquot Ponsardin Maison Fondee En 1772*, 396 F.3d 1369, 1371, 73 USPQ2d 1689, 1691 (Fed. Cir. 2005)); *In re E. I. du Pont de Nemours & Co.*, 476 F.2d 1357, 1361, 177 USPQ 563, 567 (C.C.P.A. 1973); TMEP §1207.01(b)-(b)(v).

In the present case, applicant’s mark is SNOWSTORM and registrant’s mark is SNOWSTORM. These marks are identical in appearance, sound, and meaning, “and have the potential to be used . . . in exactly the same manner.” *In re i.am.symbolic, llc*, 116 USPQ2d 1406, 1411 (TTAB 2015), *aff’d*, 866 F.3d 1315, 123 USPQ2d 1744 (Fed. Cir. 2017). Additionally, because they are identical, these marks are likely to engender the same connotation and overall commercial impression when considered in connection with applicant’s and registrant’s respective goods and/or services. *Id.*

Therefore, the marks are confusingly similar.

Relatedness of the Goods and/or Services

The goods and/or services are compared to determine whether they are similar, commercially related, or travel in the same trade channels. *See Coach Servs., Inc. v. Triumph Learning LLC*, 668 F.3d 1356, 1369-71, 101 USPQ2d 1713, 1722-23 (Fed. Cir. 2012); *Herbko Int’l, Inc. v. Kappa Books, Inc.*, 308

F.3d 1156, 1165, 64 USPQ2d 1375, 1381 (Fed. Cir. 2002); TMEP §§1207.01, 1207.01(a)(vi).

The compared goods and/or services need not be identical or even competitive to find a likelihood of confusion. *See On-line Careline Inc. v. Am. Online Inc.*, 229 F.3d 1080, 1086, 56 USPQ2d 1471, 1475 (Fed. Cir. 2000); *Recot, Inc. v. Becton*, 214 F.3d 1322, 1329, 54 USPQ2d 1894, 1898 (Fed. Cir. 2000); TMEP §1207.01(a)(i). They need only be “related in some manner and/or if the circumstances surrounding their marketing are such that they could give rise to the mistaken belief that [the goods and/or services] emanate from the same source.” *Coach Servs., Inc. v. Triumph Learning LLC*, 668 F.3d 1356, 1369, 101 USPQ2d 1713, 1722 (Fed. Cir. 2012) (quoting *7-Eleven Inc. v. Wechsler*, 83 USPQ2d 1715, 1724 (TTAB 2007)); TMEP §1207.01(a)(i); *see Made in Nature, LLC v. Pharmavite LLC*, 2022 USPQ2d 557, at *44 (TTAB 2022) (quoting *In re Jump Designs LLC*, 80 USPQ2d 1370, 1374 (TTAB 2006)).

Here, applicant’s amended goods and/or services, “Downloadable VPN (virtual private network) operating software; downloadable computer software transmission of encrypted communications; downloadable computer software which facilitates the routing of communications; downloadable computer software for encrypting communications through a secure and private connection over the Internet; Providing virtual private network (VPN) services; providing users with secure remote access via the Internet to private computer networks; transmission of encrypted communications through secure and private connections over the Internet; Design and development of virtual private network (VPN) operating software; providing temporary use of online non-downloadable VPN (virtual private network) operating software; software as a service (SaaS) services featuring software for transmission of encrypted communications through secure and private connections over the Internet,” are closely related to registrant’s goods and/or services, “Software as a service (SaaS) services featuring software for data analytics services, data integration, data management services, quality control of data, cloud computing, providing virtual computer systems through cloud computing, providing data fabric services; Computerized data storage services; Data storage, other than physical storage; Advisory services relating to computer software; Development of computer systems for the processing of data; Development of computer systems for the storage of data; Development of computer systems for the transmission of data.”

In the present case, the attached Internet evidence, consisting of screenshots from *Google*, *sns*, *perimeter 81*, and *aviatrix*, shows entities that provide cloud VPN services are also offering shared server storage, or shows that a single source connects VPN and storage. Further, the attached evidence from *AWS*, *Azure*, *Server Space*, *Oracle*, and *Tencent Cloud*, shows entities that offer VPN services also provide cloud computing and/or data storage, all under the same mark. Also, the previously attached evidence from *MySQL*, *ConnectWise*, *Acronis*, *WinMagic*, and *CloudFlare*, shows entities that offer software for encryption are also offering software for analytics, data management and/or data storage. This evidence establishes that the same entity commonly manufactures, produces, or provides the relevant goods and/or services and markets the goods and/or services under the same mark. Thus, applicant’s and registrant’s goods and/or services are considered related for likelihood of confusion purposes. *See, e.g., In re Davey Prods. Pty Ltd.*, 92 USPQ2d 1198, 1202-04 (TTAB 2009); *In re Toshiba Med. Sys. Corp.*, 91 USPQ2d 1266, 1268-69, 1271-72 (TTAB 2009).

Furthermore, cloud VPN services are both providing "software as a service (SaaS) services featuring software for transmission of encrypted communications through secure and private connections over the Internet" and "Software as a service (SaaS) services featuring software for...cloud computing, providing virtual computer systems through cloud computing...," so those goods or services are legally identical. *See, e.g., In re i.am.symbolic, llc*, 127 USPQ2d 1627, 1629 (TTAB 2018).

Additionally, the identifications have no relevant restrictions as to channels of trade or classes of purchasers, so these sets of goods or services are therefore “presumed to travel in the same channels of trade to the same class of purchasers.” *In re Viterra Inc.*, 671 F.3d 1358, 1362, 101 USPQ2d 1905, 1908 (Fed. Cir. 2012). Accordingly, applicant’s and registrant’s goods and services are related.

In applicant's response, applicant argues that the respective software have different functions, and registrant's software has nothing to do with VPN. Applicant's arguments are not persuasive because the fact that the goods and/or services of the parties differ is not controlling in determining likelihood of confusion. The issue is not likelihood of confusion between particular goods and/or services, but likelihood of confusion as to the source or sponsorship of those goods and/or services. *In re Majestic Distilling Co.*, 315 F.3d 1311, 1316, 65 USPQ2d 1201, 1205 (Fed. Cir. 2003); *In re Shell Oil Co.*, 992 F.2d 1204, 1208, 26 USPQ2d 1687, 1689 (Fed. Cir. 1993); TMEP §1207.01. Here, the evidence of record shows that cloud VPN offers both applicant's and registrant's software, and that VPN services and storage services are of a kind that emanate from a single source.

Additionally, applicant argues that the goods and services are offered in different trade channels and to different consumers. Neither the registration nor application contain exclusionary or limiting language. Thus, in the absence of limitations as to channels of trade or classes of purchasers in the goods and/or services in the registration, the presumption is that the goods and/or services move in all trade channels normal for such goods and/or services and are available to all potential classes of ordinary consumers of such goods and/or services. *See In re I-Coat Co.*, 126 USPQ2d 1730, 1737 (TTAB 2018); *In re Melville Corp.*, 18 USPQ2d 1386, 1388 (TTAB 1991); TMEP §1207.01(a)(iii).

Moreover, where the marks of the respective parties are identical or virtually identical, as in this case, the degree of similarity or relatedness between the goods and/or services needed to support a finding of likelihood of confusion declines. *See In re Country Oven, Inc.*, 2019 USPQ2d 443903, at *5 (TTAB 2019) (citing *In re i.am.symbolic, llc*, 116 USPQ2d 1406, 1411 (TTAB 2015), *aff'd*, 866 F.3d 1315, 123 USPQ2d 1744 (Fed. Cir. 2017)); TMEP §1207.01(a); *see also In re Shell Oil Co.*, 992 F.2d 1204, 1207, 26 USPQ2d 1687, 1689 (Fed. Cir. 1993).

The overriding concern is not only to prevent buyer confusion as to the source of the goods and/or services, but to protect the registrant from adverse commercial impact due to use of a similar mark by a newcomer. *See In re Shell Oil Co.*, 992 F.2d 1204, 1208, 26 USPQ2d 1687, 1690 (Fed. Cir. 1993). Therefore, any doubt regarding a likelihood of confusion determination is resolved in favor of the registrant. TMEP §1207.01(d)(i); *see Hewlett-Packard Co. v. Packard Press, Inc.*, 281 F.3d 1261, 1265, 62 USPQ2d 1001, 1003 (Fed. Cir. 2002); *In re Hyper Shoppes (Ohio), Inc.*, 837 F.2d 463, 464-65, 6 USPQ2d 1025, 1026 (Fed. Cir. 1988).

Accordingly, the goods and/or services are considered related for purposes of the likelihood of confusion analysis.

Conclusion

Because the marks are identical and the goods and/or services are related, there is a likelihood of confusion as to the source of applicant’s goods and/or services, and refusal to register the applied-for mark pursuant to Section 2(d) of the Trademark Act is now made final.

How to respond. File a [request form for reconsideration of this final Office action](#) that fully

resolves all outstanding requirements and/or refusals and/or file a timely [appeal form to the Trademark Trial and Appeal Board](#) with the required fee(s). Alternatively, applicant may file a [request form for an extension of time to file a response](#) for a fee.

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RESPONSE GUIDANCE

- **Missing the deadline for responding to this letter will cause the application to [abandon](#).** A response, appeal, or extension request must be received by the USPTO on or before 11:59 p.m. **Eastern Time** of the last day of the response deadline. Trademark Electronic Application System (TEAS) and Electronic System for Trademark Trials and Appeals (ESTTA) [system availability](#) could affect an applicant's ability to timely respond. For help resolving technical issues with TEAS, email TEAS@uspto.gov.
- **[Responses signed by an unauthorized party](#)** are not accepted and can **cause the application to [abandon](#)**. If applicant does not have an attorney, the response must be signed by the individual applicant, all joint applicants, or someone with [legal authority to bind a juristic applicant](#). If applicant has an attorney, the response must be signed by the attorney.
- If needed, **find [contact information for the supervisor](#)** of the office or unit listed in the signature block.

Google Cloud
Connectivity

Features

How It Works

Common Uses

Connecting on-prem to
Google Cloud

Get data into Google Cloud

Secure connectivity

Multicloud networking
connectivity

Use Google Cloud to
connect sites

Pricing

Partners & Integration

Announcing 200 GB free Standard Tier internet data transfer per month.



 Google Cloud Connectivity

Connect to Google Cloud on your terms, from anywhere

Extend on-premises and other cloud networks to Google Cloud with highly available, low latency connections through Cloud VPN or Dedicated, Partner, or Cross-Cloud Interconnect

Try it free

New customers can use \$300 in free credits to spend on Cloud VPN, Dedicated Interconnect, and Partner Interconnect

Product highlights

- Connections for every workload to support any amount of data
- Use Google Cloud to connect to AWS, Azure, and Oracle Cloud
- Guaranteed uptime of 99.99% through Dedicated Interconnect






Announcing Cross - Cloud
Interconnect

FEATURES

Flexible, low-cost VPN

For low-volume data connections, [Cloud VPN](#) offers a lower cost option that delivers 1.5–3.0 Gbps over an encrypted public internet connection. Cloud VPN's flexible routing options allow you to use static or [dynamic routing](#) to connect to different VPN gateways.


**Introducing Google
Cross-Cloud Network**



VIDEO

Discover Cross-Cloud
Network: Redefining
modern distributed app
connectivity

6:05

PSC over interconnect

Enable access from on-prem and public cloud to 3P SaaS services hosted on Google Cloud and 1P Google services through [Private Service Connect \(PSC\) over interconnect](#).

How It Works

Common Uses

- Connecting on-prem to Google Cloud
- Get data into Google Cloud
- Secure connectivity
- Multicloud networking connectivity
- Use Google Cloud to connect sites

Pricing

Partners & Integration

How It Works

Common Uses

- Connecting on-prem to Google Cloud
- Get data into Google Cloud
- Secure connectivity

Bidirectional Forwarding Detection

Enable fast [forwarding path outage detection](#) on Border Gateway Protocol (BGP) sessions and failover traffic to alternate healthy links.

HA VPN over interconnect

Enable private, encrypted access to your VPC from your on-premises environment through [HA VPN over interconnect](#).

Connectivity options

Connectivity options		
Google Cloud connections		
Google Cloud connections	Description	Best for
Dedicated Interconnect	Direct physical connections between your on-premises network and Google's network	Transferring encrypted sensitive data that requires 10GB or more pipe
Partner Interconnect	Connects on-premises networks and Virtual Private Cloud (VPC) networks through a supported service provider	Data needs that don't need a 10-Gbps connection
Cross-Cloud Interconnect	Provides a secure, high bandwidth, managed service connecting Google Cloud directly to third-party cloud providers	Connecting to AWS, Azure, or Oracle Cloud
Cloud VPN	Securely connects your peer network to your Virtual Private Cloud (VPC) network through an IPsec VPN connection	Extending your data center to the cloud for non-encrypted information
Peering with Google	A direct peering connection between your on-premises network and Google's extra network	Connecting to Google Workspace

Multicloud networking connectivity

Use Google Cloud to connect sites

Pricing

Partners & Integration

How It Works

Common Uses

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Partners & Integration

Learn more about Cloud Connectivity

HOW IT WORKS

Google Cloud customers can connect to Google via enterprise-grade connections with higher availability and/or lower latency than their existing internet connections. Options include Direct Peering, Carrier Peering, Dedicated Interconnect, Partner Interconnect, and Cross-Cloud Interconnect.

Choose a product

What's new in Networking: core infra



COMMON USES

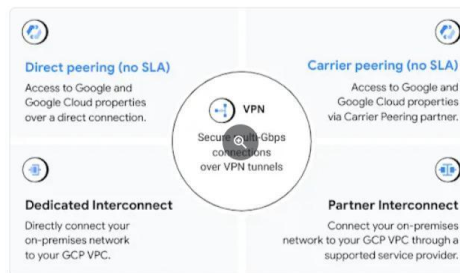
Connecting on-prem to Google Cloud

Learning resources

Connecting on-premises environments to Google Cloud VPCs

Get highly available, low latency connections to Google Cloud using Dedicated Interconnect or Partner Interconnect.

Learn more about choosing the right hybrid connectivity option



Learn best practices for Cloud Interconnect

Explore the list of supported service providers for Partner Interconnect

Get data into Google Cloud

Learning resources

Size	1 TB	100 GB	10 GB	1 GB	100 Mbps	10 Mbps	1 Mbps
1 TB	12 minutes	11 seconds	1 second	0.1 seconds	10 Mbps	10 Mbps	1 Mbps
100 GB	18 minutes	2 minutes	11 seconds	1 second	10 Mbps	10 Mbps	1 Mbps
10 GB	1 hour	18 minutes	2 minutes	11 seconds	10 Mbps	10 Mbps	1 Mbps
1 GB	3 hours	30 hours	3 hours	30 hours	10 Mbps	10 Mbps	1 Mbps
100 Mbps	12 days	12 days	12 days	12 days	10 Mbps	10 Mbps	1 Mbps
10 Mbps	128 days	128 days	128 days	128 days	10 Mbps	10 Mbps	1 Mbps

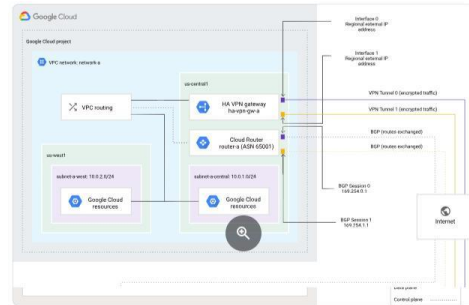
Secure connectivity

Learning resources

Securely connect to Google Cloud over the public internet

Cloud VPN offers a low-cost option that securely connects you over an encrypted public internet.

[Get an overview of Cloud VPN](#)



How to add a VPN tunnel

Planning and configuring Cloud VPN

Use Cloud Logging to monitor and troubleshoot

How It Works

Common Uses

Connecting on-prem to Google Cloud

Get data into Google Cloud

Secure connectivity

Multicloud networking connectivity

Use Google Cloud to connect sites

Pricing

Partners & Integration

How It Works

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Connecting on-prem to Google Cloud

- Google Cloud
- Get data into Google Cloud
- Secure connectivity
- Multicloud networking connectivity
- Use Google Cloud to connect sites

Pricing

Partners & Integration

How It Works

Common Uses

- Connecting on-prem to Google Cloud
- Get data into Google Cloud
- Secure connectivity
- Multicloud networking connectivity
- Use Google Cloud to connect sites

Pricing

Partners & Integration

-
-
- your Cloud VPN connections

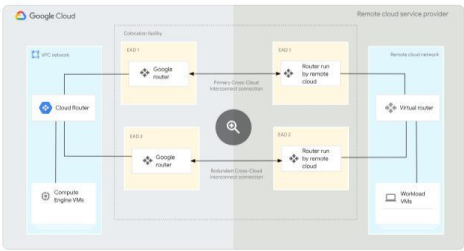
Multicloud networking connectivity

Learning resources

Simple way to connect to multiple clouds

Provides a secure, high bandwidth, managed service connecting Google Cloud directly to third-party cloud providers—AWS, Azure, and Oracle Cloud.

Get an overview of Cross-Cloud Interconnect



Blog: Announcing Cross-Cloud Interconnect



- Learn how to connect two sites using VPN spokes
- Learn how to create hubs and spokes
- Get an introduction to Network Connectivity Center

PRICING

How Cloud Connectivity pricing works

Price table description

How It Works

Common Uses

- Connecting on-prem to Google Cloud
- Get data into Google Cloud
- Secure connectivity
- Multicloud networking connectivity
- Use Google Cloud to connect sites

Pricing

Partners & Integration

Solution	Description
Cloud VPN	Learn more about Cloud VPN pricing
Cloud Interconnect	Learn more about Cloud Interconnect pricing
Direct Peering	Learn more about Direct Peering pricing
PRICING CALCULATOR	CUSTOM QUOTE
Estimate your monthly charges. Estimate your costs	Request a quote. Connect with our sales team to get a custom quote for your organization


Technical deep dive

Cross-Cloud Interconnect demonstration

[Watch the video](#)


Cross-Cloud Interconnect guide

[Read the guide](#)




Dedicated Interconnect tutorial

Establish 99.99% availability for Dedicated Interconnect



Partner Interconnect overview

Connect your on-premises network and your Virtual Private Cloud (VPC) network through a partner service provider



Dedicated Interconnect colocation facilities

Dedicated Interconnect connections are available from 144 locations

How It Works

Common Uses

Connecting on-prem to
Google Cloud

PARTNERS & INTEGRATION

Google Cloud

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Learn about REMOTE WORKFLOW solutions, including Nomad and SNS Cloud VPN

sns

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EVO Shared Media Servers

Cloud and on-premise workflow solutions

The EVO shared storage video editing server gives professional media teams incredible performance and supercharged efficiency.

It offers a suite of workflow features for **on-site and remote users**, including the powerful and easy-to-use ShareBrowser MAM, Nomad, and Slingshot with cloud, NLE, and A.I. integrations.

Made for creative teams



SNS specializes in hardware, software, and cloud solutions for professional video, broadcast, VFX, and audio production.

Shared storage solutions for

Cloud and on-premise workflow solutions

The EVO shared storage video editing server gives professional media teams incredible performance and supercharged efficiency.

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Made for creative teams



SNS specializes in hardware, software, and cloud solutions for professional video, broadcast, VFX, and audio production.

Shared storage solutions for media production teams

In your server room, on a desk, on location, or up in the cloud, EVO is a complete shared storage solution for on-site and remote workflows. [Includes the EVO Suite](#) for unlimited users.

EVO 16 Bay



High performance

EVO Cloud



MOD



Compact server and cloud edge device

**High performance
scalable storage for
medium to large
workgroups**

The 16 bay EVO accommodates up to 80 drives per managed system and multiple 10, 25, 50, and 100GbE ports.

Most Popular System

**Cloud workflow for video
production**

EVO Cloud is a complete and comprehensive cloud workflow for fully remote, hybrid, and multi-location editing teams.

Cloud edge device

Lightweight and portable, MOD is a compact edit server and cloud edge device all in one.

EVO 8 Bay ▶



**High performance shared
storage for small to
medium workgroups**

The 8 bay EVO accommodates up to 24 drives per managed system and multiple 10, 25, 50, and 100GbE ports.

**EVO 8 Bay Short
Depth ▶**



**Shared storage for DIT &
mobile**

An 18" EVO designed for big needs in tight spaces. Great for small server racks, flypacks, DIT, mobile, and other on-location workflows.

**EVO Prodigy
Desktop ▶**



**Something big...
figuratively speaking**

EVO Prodigy Desktop is small, quiet, **desktop storage** for compressed workflows, mobile/field use, and studios without rack space.

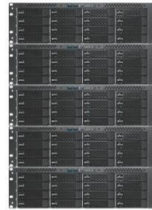
EVO Prodigy 1U ▶



**Small, rackable workflow
appliance**

EVO Prodigy is ideal for studios with limited rack space, field use, and adding the EVO Suite to existing storage systems.

EVO Nearline ▶



SNS Cloud VPN ▶



**Remote access from
anywhere**

SNS Cloud VPN is the safe, secure, and convenient way for your team to access, download, and edit shared files remotely. *Also see a team remote use access to their*

Not just for EVO users!

Affordable nearline/secondary tier for staging large reference libraries, completed projects, and related media before deep archive.
Cluster-capable for scalability to **multiple petabytes** in a single namespace.

Write your content to our namespace whenever and wherever you want
media and projects, from anywhere.

The EVO OS, systems, and all included software are designed by SNS, for professional media applications.

The award-winning EVO Suite, included

With every EVO

Every EVO shared storage solution includes the multi-award-winning EVO Suite of software tools, including ShareBrowser media asset manager, Slingshot transcode and automations engine, and Nomad for remote workflow.

Trusted around the world

NABSHOW
PRODUCT
of the
YEAR 2023
WINNER
CLOUD COMPUTING & STORAGE

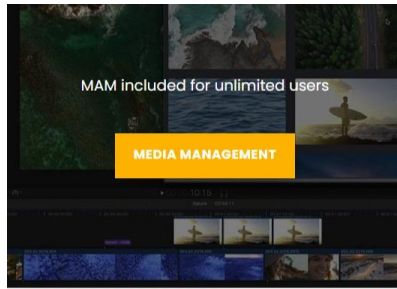
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CLOUD COMPUTING & STORAGE

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REMOTE PRODUCTION

For unlimited users. Period.



ShareBrowser



MAM included for unlimited users

MEDIA MANAGEMENT

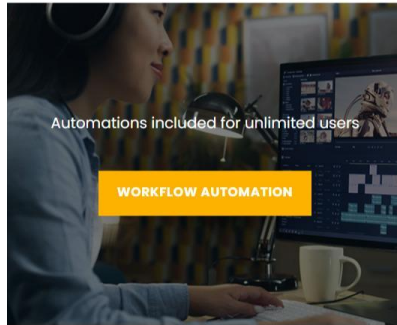
Search, find, tag, comment, preview, archive... for the whole team.

ShareBrowser is perfect for post-production teams that collaborate around a shared storage workflow, giving everyone a central, searchable database.

Includes panels for Premiere, After Effects, Final Cut Pro, and DaVinci Resolve.

Unlimited licenses of ShareBrowser are included with every EVO system.

[Part of the EVO Suite.](#)



Automations included for unlimited users

WORKFLOW AUTOMATION

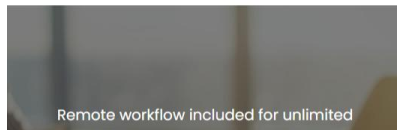
Slingshot

Automated backups, transcodes, file transfers, and more.

Slingshot is the easy-to-use automations engine that takes repetitive data processing tasks (like transcoding, indexing, and backing up your media and projects) off your editors' to-do lists.

Get unlimited automations with every EVO shared storage server.

[Part of the EVO Suite.](#)

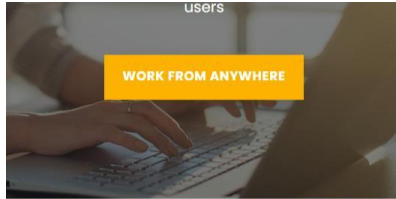


Remote workflow included for unlimited

Nomad

A must-have for remote video editors.

Take your workflow on the go with Nomad, EVO's remote editing tool.



Nomad retrieves all the proxy media and source files you need to work on your remote editing projects offline, making it easy for team members to edit from anywhere in the world.

Included for unlimited users with EVO, Nomad is perfect for working from home, remote freelancers, and hybrid on-site/off-site workflows.

[Part of the EVO Suite.](#)

The EVO Suite—a standard for editors everywhere

Services

Enhanced [services and support](#) offer your organization all-inclusive hardware, software, warranty, integration, and interoperability coverage for every SNS product—leading to increased uptime, productivity, and profitability (on your end).

SERVICES

Support plans

Choose Basic, Standard, or Premium technical support to best fit the needs of your organization.

Installation

On-site installation or remote commissioning services make deployment a breeze.

Training

Our product and workflow experts take your team through onboarding and basic use.

Migration

If your current MAM system has become so complicated that no one wants to use it... we can help.

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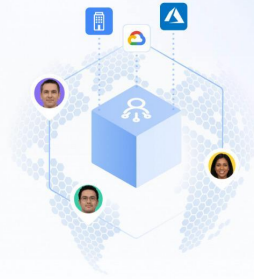


What is a Cloud VPN?

Cloud VPNs more easily and cost-effectively provide workers around the world with fast, private access to their corporate cloud-based resources.

[Request Demo](#)

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3,000+ Customers Secured



What Are the Benefits of a Cloud VPN?

The Cloud has transitioned the local network environment onto the Internet – meaning static, legacy VPNs are no longer enough to ensure data security. Introducing the *Cloud VPN*.



Scalable, Global Reach

A Cloud VPN is a cloud-based network infrastructure that delivers VPN services. It provides globally accessible VPN access to end-users through a cloud platform over the public Internet.



A Better User Experience

Cloud VPNs allows user to securely access the private network. A remote worker can be across the globe and access the business network through the VPN and have identical access to important resources just as if they were in the office.

[Request Demo](#)[Start Now](#)

How Does a Cloud VPN Work?

Cloud VPNs provide security and compliance to networks that have transitioned to the public cloud.



Secure the Cloud



Secures the Cloud

While the cloud provider offers the network infrastructure, it does not address access point security into the network. In this 'shared responsibility model', it is up to the consumer to secure access on top of the cloud environment.

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Enables Remote Access

Employees connect from multiple devices, from various locations during all hours of the night and day. A Cloud VPN allows employees to securely access the organization's private network through public networks and even share data remotely.

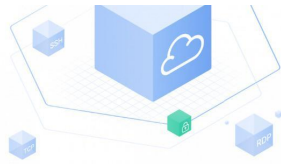
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Encrypts Transmitted Data

The combination of data encryption and tunneling protocols means that all transmitted data, regardless of device or location, is completely encrypted. This level of security





ensures that only authorized connections are established.

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What a Cloud VPN Can Do for Your Business

Protect cloud environments, staging servers and company databases with total ease.



Optimize Your International Search Rankings

With a Cloud VPN, you can easily view, monitor and manage your ads and relevant keywords internationally. Connect to international servers, view your ads in key markets and easily observe keyword performance in target countries.



Stay Ahead of Your Competition

Deliver different content to different users based on their geographic location. By customizing your site with native text, images and currency, you can greatly increase your conversion rate and easily spy on your competition and establish your company as a leader.



Access Applications, VoIP Services and More

Many platforms such as Skype, Whatsapp, Facebook and even Google are blocked in many countries. With a VPN, you can mask your actual location and bypass online censorship allowing you to access VoIP apps, social media networks, websites, and more.



Access and Security for BYOD Devices

Recent data revealed that 84 percent of Americans work remotely once a month, and 90 percent use their personal devices for work. A Cloud VPN allows your employees to encrypt and secure their online traffic—no matter where they're browsing from.



International Quality Assurance Testing

If your business is distributed internationally, you'll want to be sure it is functioning properly worldwide. With a VPN, your QA team can easily change their online geo-location and check the quality of your product in your key international markets.



Simple Automatic IP Whitelisting

Save time and increase productivity by whitelisting and segmenting employee access to specific cloud resources. Simply block out threats and grant access to trusted sources by assigning static IP addresses and automatically whitelisting IPs.

Cloud VPN FAQ

What Are the Different Kinds of Cloud VPNs?



What Are the Different Types of Cloud VPN Models?



What Are the Different Types of Cloud VPN Protocols?



How Does Cloud VPN Tunneling Work?



How Do Cloud VPN Gateways Work?



Can I Have a Static IP Address with a Cloud VPN?



Get Started with a Leading Cloud VPN Today

Gain secure, private and unrestricted Internet access for your business network with a modern, cloud-first solution.

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Our Mission

At Perimeter 81, our mission is to simplify secure network, cloud and application access for the modern and mobile workforce. To do so, we are transforming traditional network security technology with one unified Zero Trust Network as a Service.



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ago

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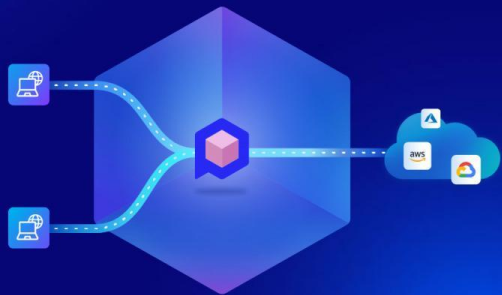


Ensure Fast and Resilient Connectivity for Every User, Everywhere

Wherever your users connect from, and to,
make sure they get there with minimal latency and high reliability

Start Now

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3,000+ Customers Secured

headspace

aqua

telestream

pollinate

hims & hers

JELLYFISH

Trustpilot

POSTMAN

Optimizely

EY

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Sure

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Boost Network Performance

Your users and resources can be anywhere, your network should be there too.
Our Global Backbone Network has the world, and you, covered.



Global

50+ PoPs distributed worldwide



Resilient

Each PoP connection has at least two Tier 1 providers



Fast

Reserved bandwidth and expansive peering



Highly Available

Fast automatic failover between PoPs for maximum uptime

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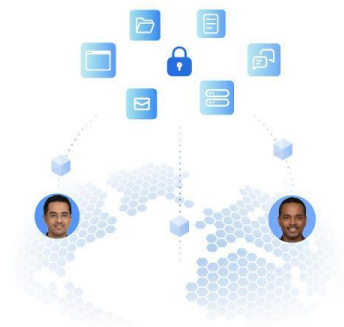


Optimized Connectivity for All

Whether at the office, home, or on the road, enable all users to easily connect to a nearby PoP wherever they are. Ensure minimal last-mile latency, an optimal user experience and enhanced productivity.

[Learn More](#) →





Optimized Interconnectedness

Perimeter 81's Global Backbone Network connects any user to any application with minimal latency and maximum productivity. Ensure your workforce has untethered access to the applications and resources they need.

[Request Demo](#) →

Hop on the Fast Track

Traditional networks send user traffic over the public Internet. This results in accumulated latency, jitter and packet loss causing connectivity degradation impacting application performance. Our Global Backbone Network with dedicated Tier-1 highways bypasses the public Internet and takes you to any destination, fast.



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Not right now





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Public Internet Falts



ISP Handoffs

Users typically connect to company resources via ISP handoffs: passing traffic from one ISP to the next all the way to the destination.

No Guarantees

ISP handoffs mean no speed guarantees, no reserved bandwidth, and no obligations to ensure reliable end-to-end connectivity.

Poor Performance

On the public Internet, user traffic picks up latency until applications become slow leading to a negative user experience and reduced productivity.



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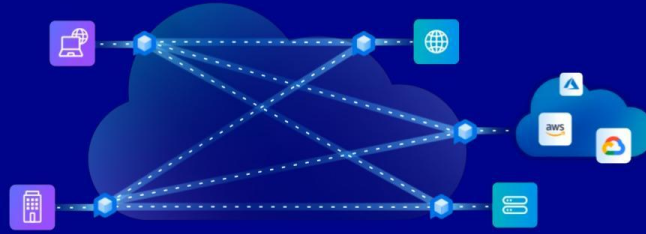
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Private Backbone Performs



Closest Connection

Perimeter 81 connects users from the PoP closest to them to their final destination over our Global Backbone Network.

Resilient

Each PoP utilizes at least two Tier-1 links to ensure backbone resilience and optimal performance.

The Digital Super Highway

Perimeter 81's Global Backbone is essentially a digital super highway with a multitude of fast moving lanes that reach all major business locations around the world.

Perimeter 81 Helps Organizations



Connect Remote Users

Efficiently connect users from home, the office, or mobile devices to the cloud.



Accelerate Applications

Improve application responsiveness and reduce latency for critical applications.



Optimize Global Connectivity

Ensure optimal performance between any two locations across the globe.

corner shop, or wherever their job takes them.

whether on-prem or in the cloud.

two locations around the world.

Global Backbone Network FAQs

What is a global backbone network?	+
How is a global backbone better than the public Internet?	+
How many PoPs does Perimeter 81 have?	+
How does a Global Backbone Network improve application responsiveness?	+

Learn More About Perimeter 81's Global Backbone Network



How the Internet is Slowing



Global Backbone Network



The Human Attack Surface

Down Your Business

Learn about the problems with regular internet connections, and how the Global Backbone Network makes your company more efficient.

[Learn More →](#)

Overview

Perimeter 81's Global Backbone Network provides minimal connection latency for enhanced productivity.

[Learn More →](#)

Watch our conversation that combines the world of social engineering with cutting-edge technology to better understand the biggest threats to network security.

[Learn More →](#)

Ready to Get Started?

Protect your users with Perimeter 81's Standalone Secure Web Gateway

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Our Mission

At Perimeter 81, our mission is to simplify secure network, cloud and application access for the modern and mobile workforce. To do so, we are transforming traditional network security solutions into what we call [Zero Trust Network](#).

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technology with the unified zero trust network
as a Service.



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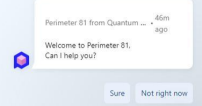
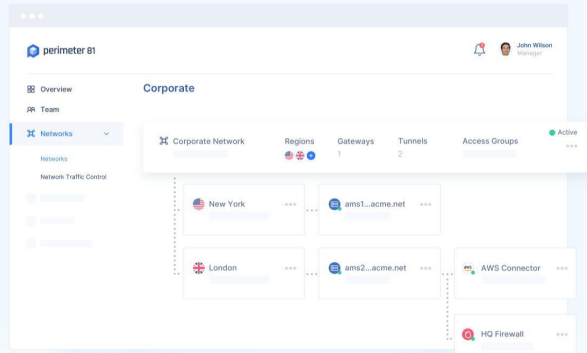


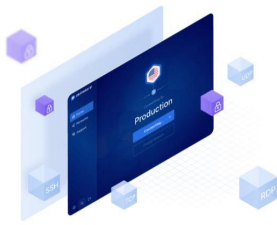




Reduce your network's attack surface with Zero Trust Network Access

If employees are connected, they and your network are protected — with identity-based access rules, 2FA, traffic encryption, monitoring and more.

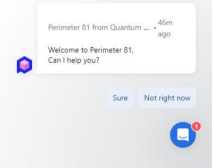
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Privatize traffic across all layers, ports and protocols

Picking only one encryption solution can cause issues when resources are located in various cloud environments and users connect with their preferred device and location. With Perimeter 81 you can deploy multiple protocols at once, depending on the relevant environment and connection.

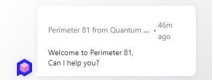
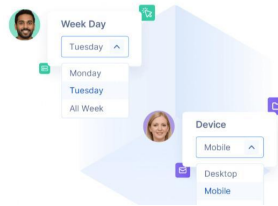
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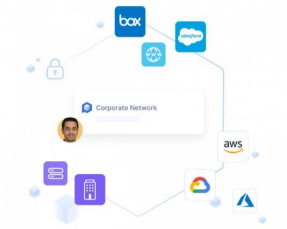


Customized access policy for users and their devices

When all employees have the same access permissions and those permissions grant full network access, the attack surface is wide and vulnerabilities abound. Segment your network and narrow access rules to individual users and groups, with authentication enforced via identity providers.

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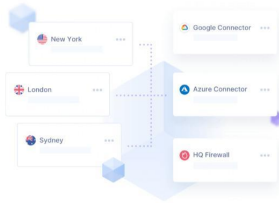




Boost resource availability for remote workers

Now that the traditional network perimeter is gone and access occurs further away from network resources, it's time to bring resources closer to where they're needed. Private network gateways limit latency and boost speeds for productive and agile remote work no matter where your employees are located.

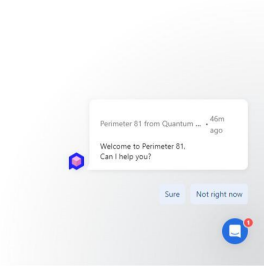
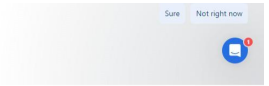
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Integrate security into every environment

When their companies rely heavily on the cloud, and encourage remote work and BYOD, a primary concern for IT is complexity and reduced visibility into network activity and access. Perimeter 81 integrates with all your various solutions and services for total network awareness.

[Get Started Now](#) →



Design security around users with ZTNA

When all employees have the same access privileges, the network is vulnerable. VPNs may provide adequate security for on-prem resources, but only Zero Trust solutions offer the user-based access rules required for true cloud security.



Encrypted

Support for multiple major encryption protocols including [IPSec](#), [OpenVPN](#) and [WireGuard](#).



User-Centric

Segment the network and enforce logins through major identity providers.



Integrated

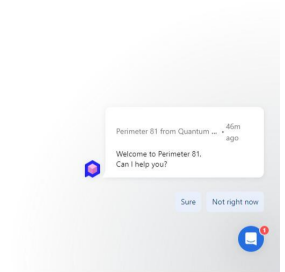
Integrate with all on-prem and cloud resources or services for full visibility.



Cloud Edge

Deploy private VPN gateways around the world, providing remote workers with fast access.

Why executives choose ZTNA for their IT teams



Why executives choose Perimeter 81

With Zero Trust Network Access, organizations can be entirely confident that their data, critical applications and infrastructure are secure, without the expensive orchestration, maintenance or hardware of legacy solutions.



Lowered Total Cost of Operation

Orchestrating a tall stack of solutions in order to achieve security requires extensive maintenance, management and overhead that our unified SaaS eliminates.



Increased Network Visibility

You can't put a price on network awareness, because the cost of being breached is immeasurable. Perimeter 81 offers the visibility you need to ensure and prove safety.



Holistic Security Capabilities

When IT can access more functionality with fewer tools, security improves and human error diminishes. Equip your IT team with everything in one cloud panel.

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Zero Trust access is secure access

Zero Trust Network Access is the modern organization's answer to poor network visibility, security tool sprawl, and dangerous access policies.

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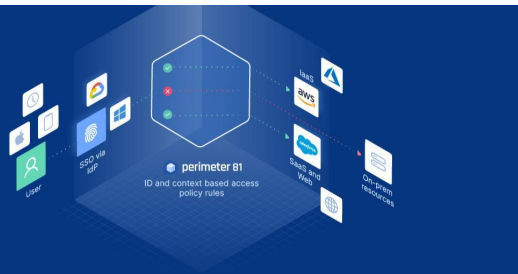


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Sure

Not right now





Audited and Monitored

Enable security professionals to get insights into network activity, the effectiveness of access policies and potential threats with a security product that is integrated with major SIEM providers and logs all network activity for easy auditing and proven compliance.

Least-Privilege Access

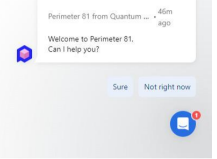
Make your data "need to know" only. With ZTNA, resource access is dependent on the role and device of the user, reducing the attack surface significantly and making it easy for IT to apply relevant policies to newly-onboarded resources and employees.

Unified Network Security


Reduce the number of solutions that your IT team needs to orchestrate and onboard with Perimeter 81's unified networking and security SaaS. From a single admin panel, IT can manage access, segment the network, and enforce security like 2FA for all users.

Cloud Native Security

Our API makes it easy to integrate with major cloud providers such as Google, Azure, AWS, Salesforce and others. With Perimeter 81, no resource is left out of IT's purview – regardless if it's a legacy on-prem solution or a cutting-edge cloud service.




Perimeter 81 Customers Securing Network Access with ZTNA




Silo City IT
Rapidly Scales MSSP Business With Zero Trust Access Services

[Learn more →](#)



Kustomer
Replaces its Hardware VPN with Cloud-Based Remote Access

[Learn more →](#)



WHISKY AUCTIONEER
Deploys Secure Remote Network Access for Its Entire Workforce

[Learn more →](#)

Secure your network now with Perimeter 81



of your network and improve security in just 15 minutes.
Gain total control

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Sure

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Can I help you?

Protect Your Business Against Internet Threats

Defend employees and the company network from the dangers of the web with Secure Web Gateway (SWG)

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[Sure](#) [Not right now](#)

3,000+ Customers Secured



Defend Against Web Threats

A Secure Web Gateway protects employees against malicious sites and other dangers of the web



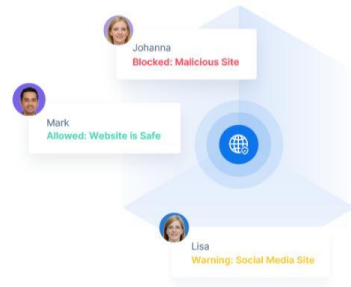
Control Internet Access

- Prevent access to sites that violate company policies
- Control access to time-wasting sites
- Block harmful sites



Protect Against Malware Attacks

- Ransomware
- Phishing
- Zero day attacks



Why Businesses Need SWG

A Secure Web Gateway examines employee web traffic for malicious content and blocks access to harmful websites. This can help prevent infections from Internet-borne malware that can propagate through the network and damage the business. It also controls access to objectionable content and provides visibility into web activity.

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[Sure](#)

[Not right now](#)



Introducing Hybrid SWG

Perimeter 81 from Quantum ... · 47m ago



Why Do We Need Hybrid SWG?

Current SWG solutions force businesses into a dilemma.
Select an on-prem appliance or cloud-based SWG, each with significant drawbacks:

On-Prem SWG Disadvantages

- High operational complexity
- Adds latency to remote user traffic
- Limited scalability

Cloud-Based SWG Disadvantages

- Bypassed traffic is not protected
- A cloud service can add significant latency
- Traffic decrypted in uncontrolled environment

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Can I help you?

Sure Not right now

SWG Dilemma: Solved

Don't choose between outdated SWGs, Perimeter 81's solution offers the best of both worlds.

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The Advantages of Hybrid SWG



Direct Access



Privacy Compliant

Reduce TCO

Perimeter 81's Hybrid SWG is a cloud-based SaaS solution that reduces operational complexity and long-term costs.

 Eliminate Backhauling

 Reduce TCO

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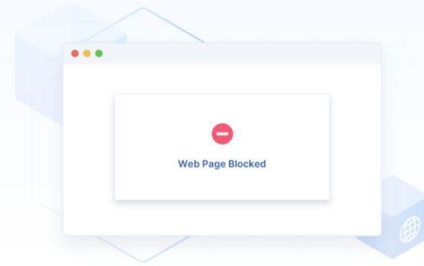
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Context-Based Filtering

Apply different website block lists based on whether employees are connected to the corporate network, or not.

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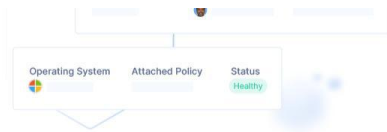
Sure

Not right now



Last Posture Check	Member Name	Device Name

Single-Pane-of-Glass Management



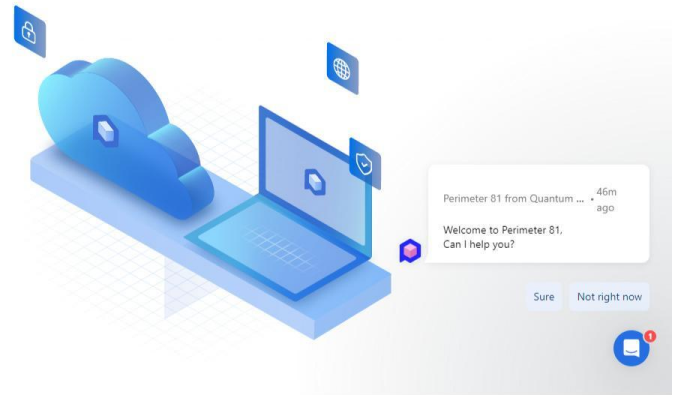
Cloud or on-device? When it comes to management everything is controlled from our intuitive web-based management console.

[Learn More →](#)

Malware Protection

Perimeter 81's Hybrid SWG includes robust protection businesses need to defend against attacks such as zero days, viruses, and ransomware.

[Request Demo →](#)



Hybrid SWG Additional Benefits



Flexible Browsing Policies

Different contexts need different rules. Perimeter 81's Hybrid SWG makes it easy to support different browsing policies.



Worry-Free Compliance

Our on-device SSL inspection ensures that your company's traffic is not processed in a different country or unsecured data center, eliminating the risk of violating local laws or compliance regulations.



Enforce On-Network Rules

Connecting to the corporate network is serious business. Turn your security up to maximum by applying stricter rules to avoid malicious activity and time-wasting sites.



Better Employee Privacy

With bypass rules in place, you can effortlessly safeguard the privacy of your employees by ensuring that their personal traffic isn't inspected.

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1

Customize Web Filtering Rules



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1

Segment by Identity

Apply granular rules for specific groups or individuals based on what people need to access to do their jobs.

Segment by Network

Perimeter 81's multi-network support also means you can set specific rules for specific networks.

Apply All

Perimeter 81's Hybrid SWG lets you apply filtering rules that will affect all users regardless of their network connection status.

Balanced Freedom

Apply maximum security when users are on the network, but allow freer usage during off-hours with Hybrid SWG.

SWG Deployments Comparison

	On-prem SWG	Cloud SWG	Hybrid SWG
No on-prem appliance deployment and maintenance			
Avoids backhauling remote user traffic			
Centrally managed from a single console			
Direct-to-website connection			
Protects bypassed traffic (split tunnel)			
Performs SSL decryption in trusted location			

Perimeter 81 from Quantum ...
46m ago

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Not right now



“Our insurance company required us to drop our old homegrown VPN solution for a more secure one. Fortunately, Perimeter 81 fit that bill – it’s secure, reliable, and easy to set up, unlike our old VPN solution. When compared to other solutions on the market that we tested, Perimeter 81 was, hands down, much simpler to get up and running and integrated with our current SD-WAN infrastructure.”



Brian J. Fischer
IT Manager/Senior Systems Administrator, Manhard



Hybrid SWG FAQs

What makes a Hybrid SWG different?



Can you help me plug the security hole of bypassed traffic?



Why have on-cloud and on-device options?



What are the benefits of Hybrid SWG?



Learn More About SWG



The Rise of Hybrid SWG – Taking Internet Security to the Edge

Discover in more detail the advantages of Perimeter 81's Hybrid SWG approach.

[Read Now](#) →



What Is A Secure Web Gateway?

Learn about the importance of a Secure Web Gateway, and how it protects employees and the company network.

[Read Now](#) →



Stop Ransomware With Converged Network Security

See how a secure network can make your business more secure against cybersecurity threats such as ransomware.

[Read Now](#) →

Ready to Get Started?

Perimeter 81's Hybrid SWG provides flexible, context-based protection that can be tailored to suit your organization's needs.

[Request Demo](#)

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Certified SOC 2 Type 2, GDPR, CCPA and ISO 27001 Compliant

We adhere to the highest standards of software security

We adhere to the highest standards of software security compliance, so you can rest assured that your organization's data remains fully protected.

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COMPLIANT

GDPR

HIPAA
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Our Mission

At Perimeter 81, our mission is to simplify secure network, cloud and application access for the modern and mobile workforce. To do so, we are transforming traditional network security

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technology with one unified Zero Trust Network
as a Service.



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What is Site-to-Cloud VPN?

[Learning Center](#) | [Cloud Security](#) | [What is Site to Cloud VPN](#)

Learning Objectives

This article details different types of VPNs, VPN configurations, various architectural implementations of the site to cloud VPNs and a study of the various key distribution mechanisms for security enhancement.

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What is Site to Cloud VPN?

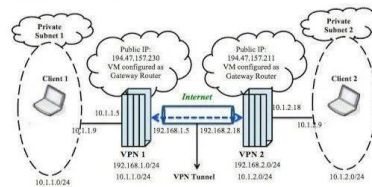
[What Do Egress and Ingress Mean in the Cloud?](#)[What is the AWS Console?](#)[Why Use Egress Filtering?](#)[What does AWS Networking Services Offer?](#)[What are Security Groups in AWS?](#)[Network Security in Azure](#)[What is Azure Firewall?](#)[How do I create Network Security Groups in Azure?](#)[What is Azure Network Security Group?](#)[What is Azure Express Route?](#)[What is Azure Network Virtual Appliance \(NVA\)?](#)

What is Site to Cloud VPN?

Today's businesses provide employees with the opportunity to work from home or on the road. When a company allows their staff to gain access to the internal network, it is important that this is done safely. Many company employees who are often traveling, or who simply do not need to sit at a fixed place in an office to do their job need to have secure access to the company network. When one works from outside the environment and needs information to work, it is important that he or she gets access from his or her location. Today, a broadband connection makes possible a quick way to send and retrieve information over the Internet. Just as there are thieves in the community, there are people on the Internet attempting to get access to other people's computers to steal information, or just to destroy it.

The solution for secure remote connectivity

A common solution to most security threats is a Virtual Private Network (VPN). A VPN allows a user to access the internal resources of the company from an external network such as the Internet. This allows users to access internal resources in a secure manner. The VPN technology is then preferable to have as fast, secure and reliable a connection as possible.



VPN Architecture

Types of VPNs

There are three different VPN connectivity models that can be implemented over a public network:

- **Remote-access VPNs.** It provides remote access to an enterprise customer's intranet or extranet over a shared infrastructure. Deploying a remote-access VPN enables corporations to reduce communications expenses by leveraging the local dial-up infrastructures of Internet service providers. At the same time, VPN allows mobile workers, telecommuters, and day extenders to take advantage of broadband

connectivity. Access VPNs impose security over analog, dial, ISDN, digital subscriber line (DSL), Mobile IP, and cable technologies that connect mobile users, telecommuters, and branch offices.

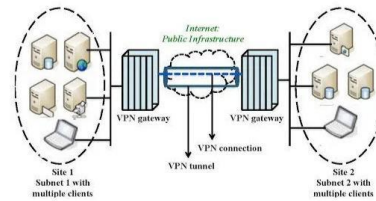
- **Intranet VPNs:** It links enterprise customer headquarters, remote offices, and branch offices in an internal network over a shared infrastructure. Remote and branch offices can use VPNs over existing Internet connections, thus providing a secure connection for remote offices. This eliminates costly dedicated connections and reduces WAN costs. Intranet VPNs allow access only to enterprise customer's employees.
- **Extranet VPNs:** It links outside customers, partners, or communities of interest to an enterprise customer's network over a shared infrastructure. Extranet VPNs differ from intranet VPNs in that they allow access to uses outside the enterprise.

VPN configurations

There are two main types of VPN configurations for deploying a VPN connection over a public network. These are Site to Site and Site to Cloud.

Site-to-site VPNs

This is sometimes referred to as a secure gateway-to-gateway connection over the internet, private or outsourced networks. This configuration secures information sent across multiple LANs or between two or more office networks and this can be done effectively by routing packets across a secure VPN tunnel over the network between two gateway devices or routers. The secure VPN tunnel enables two private networks (sites) to share data through an insecure network without fear that the data will be intercepted by unauthorized persons outside the sites. The site-to-site VPN establishes a one-to-one peer relationship between two networks via the VPN tunnel – Kao, M. (2004). Also, Holden, G. (2003), describes a site-to-site VPN as a link between two or more networks. This is mostly used in Intranet VPNs and sometimes in extranet VPNs.



Site-to-site VPN architecture

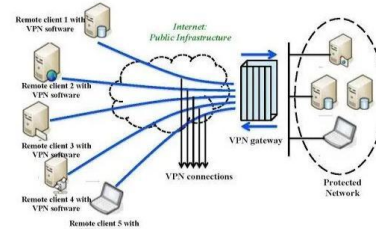
Advantage: Site-to-site VPNs offer greater scalability and flexibility because only the gateway VPN needs to support IPSec functionality and hence the installation and management costs across deployed gateways are minimal. Also, it offloads the processing overhead from individual systems to the gateway router thus freeing up memory consumption and processing speed.

Disadvantage: However, the processing overheads managed by the gateway routers increase CPU utilization thus degrading user performance in terms of communication speed.

Client-to-Site VPNs

This is a configuration that involves a client at an insecure remote location who wants to access internal data from outside the organization network's LAN. Holden, G. (2003) explains a client-to-site VPN as a network made accessible to remote users who need dial-in access. While Kao, M. (2004) defined a client-to-site VPN as a collection of mechanisms that terminate on a centrally located endpoint on the

connection of many remote users, determined and supporting enterprise networks on the LAN side. In this configuration, the user needs to establish a connection to the VPN server in order to gain a secure route into the site's LAN and this can be done by configuring a VPN client which could either be a computer operating system or hardware VPN – such as a router. By so doing, the connection enables the client to access and use internal network resources. This kind of configuration is also referred to as a secure client-to-gateway connection. This is usually used in access VPNs and sometimes in extranet VPNs.



REMOTE ACCESS VPN ARCHITECTURE

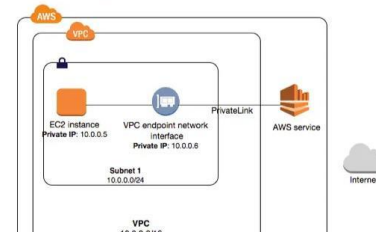
Advantage: Remote access VPN has its advantages of enhancing productivity, providing secure communication, reducing costs and increasing flexibility of VPNs.

Disadvantage: One drawback in these VPNs is that all these approaches require VPN client software to be installed on each remote client and the target VPN gateway that supports the same protocol and extensions for remote access.

The second type of VPN configuration is Site to Cloud.

Site to Cloud VPN is a type of VPN that utilizes a cloud-based network infrastructure to deliver VPN services. It provides globally accessible VPN access to end users and subscribers through a cloud platform over the public Internet.

The objective behind the site to cloud VPN is to provide the same level of secure and globally accessible VPN service access without the need for any VPN infrastructure on the user's end. The user connects to the cloud VPN through the provider's website or a desktop/mobile app. Similarly, the pricing of cloud VPN is different than standard VPN service as it charges the customer based on pay per usage or a flat-fee subscription. Users are charged based on the amount of hardware, storage, network, and other resources utilized.





Site to Cloud VPN Importance to Business

Cloud VPN combines secure communication and additional security functions in the cloud with a high degree of automation in provisioning and self-service management. With this solution, customers can easily and securely access all important company data from anywhere – whether in branch offices or at remote locations.

The Site to Cloud VPN service uses a self-service online portal to give customers a simple way to select, subscribe to and activate the service. The service portfolio includes branch, site-to-site and remote access encrypted VPNs as well as firewall and web security. It is offered as a cloud-managed IT solution on a monthly subscription basis.

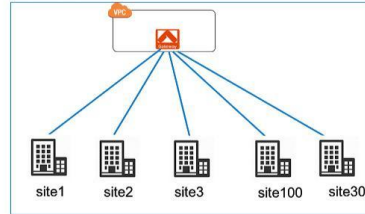
Customers have access to a management dashboard where they can track the service status or change service features such as the number of users, the bandwidth, the traffic prioritization or select between predefined levels of web-security with a simple mouse click.

Benefits of the site to site cloud VPN

- Cost effective – no need to invest in hardware, software or IT manpower
- High availability with back-up service to ensure uninterrupted service
- Secure remote access to company email and intranet
- Windows, Mac OS, Android and iOS compatible
- Two Factor Authentication with the stringent 2-step verification process

How Site to Cloud VPN works:

Site to cloud supports connectivity between organization Gateways in the cloud and on-premise routers.



Conclusion

Site to cloud VPN puts an organization's entire on-premise VPN into the cloud. With no additional on-premise hardware required, the company will enjoy the security and functionality of a private network. The access of internal and administrative applications can be restricted to only authorized employees, suppliers or clients.

Enabled administrators and employees at branch offices or remote locations will then be able to access corporate systems and resources via an Internet connection on the go.



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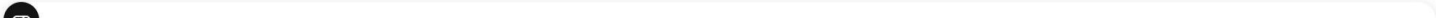
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Aviatrix Secure Cloud Network

Trusted by more than **500 of the world's most innovative companies**, Aviatrix is the leader in secure cloud networking, empowering businesses to unlock the power of cloud networking.

We understand that managing cloud networks can be a complex and challenging task. That's where our expertise in security and cloud networking comes in. We have extensive knowledge and experience in navigating the intricacies of cloud networks, allowing us to tackle the most challenging aspects of this.

At its core, Aviatrix streamlines and simplifies multicloud environments, regardless of the cloud provider, by optimizing costs, streamlining operations, and enhancing security.



Our comprehensive solution includes:

- **Aviatrix Controller:** A central management console that provides network visibility, security, and control across multi-cloud environments.
- **Aviatrix CoPilot:** A cloud network monitoring and troubleshooting tool that provides real-time visibility and remediation capabilities.
- **Aviatrix Gateway:** A highly available and scalable gateway that enables secure connectivity between on-premises networks and the cloud.
- **Aviatrix Transit:** A transit networking solution that simplifies and secures connectivity between VPCs, VNets, and other cloud networks.

These components work together to enable secure, simplified, and scalable cloud networking across multicloud environments.

Simplify Multicloud Networking

Simplify, secure, and save with the leader in secure cloud networking.

Centralized Control

Easily visualize and manage the global cloud network, troubleshoot connectivity issues, and perform operational tasks all from a unified dashboard, regardless of the cloud providers being used.

[Learn more](#)

Easy Deployment

Can be easily launched from your primary cloud marketplace, streamlining the deployment process. It is compatible with any cloud computing platform, making it flexible and accessible.

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Embedded Security

Unique in its ability to bridge the gap between traditional network security and cloud, Aviatrix embeds security into the network with enterprise-grade security and capabilities.

[Learn more](#)

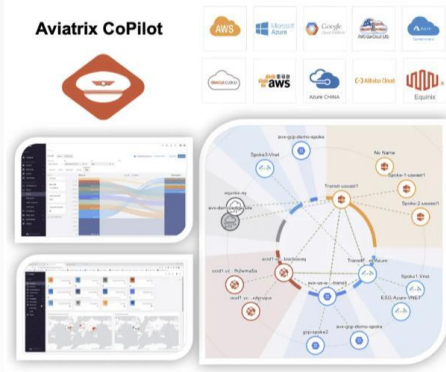
Secure and Predictable

Imagine a world where managing multicloud networking is easy, secure, and predictable.

Aviatrix simplifies and secures multicloud environments, regardless of the cloud provider.

With CoPilot, our centralized networking management tool, you can efficiently manage multiple clouds while optimizing resources to make intelligent financial decisions and reduce costs.

[EXPLORE COPILOT](#)



Self-Service Automation

Simplify your cloud networking workflows with Aviatrix Self-Service Automation.

- Simplify and streamline your cloud networking workflows, reducing complexity and improving efficiency.
- Effortlessly manage cloud networking resources using infrastructure-as-code, saving time and effort.
- Ensure compliance and enable consistency across multiple cloud



providers.

- Empower developers with self-service access to the infrastructure abstraction through Crossplane, enabling agile provisioning and reducing dependency on platform teams.



[EXPLORE TERRAFORM BENEFITS](#)

CostIQ Reduces Spending

Harnessing the power of network flow telemetry built into the Aviatrix Secure Cloud Network, CostIQ enables organizations to track actual network traffic from cost centers (sources) to shared cloud resources (destinations). Take control of your cloud costs by gaining an accurate breakdown of accounts or subscriptions utilizing the shared resources in the public cloud. With Aviatrix CostIQ, you can even define cost centers and identify shared resources through a simple and intuitive interface.

Don't let cloud costs spiral out of control – unlock the power of Aviatrix CostIQ and revolutionize your cost management approach.

[VIEW COSTIQ DEMO](#)



NEWS
Aviatrix Brings Cloud Costs into Focus with CostIQ



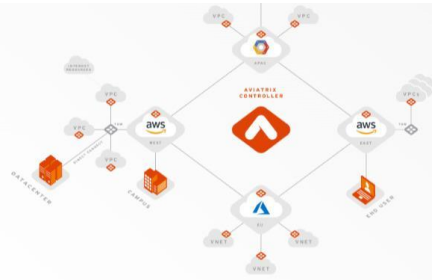
5 Reasons to Explore Aviatrix

Aviatrix is designed for easy deployment and use in several ways:

1. **Automated Setup:** Automates the deployment of networking components, reducing the need for manual configurations.



2. **Intuitive Workflows:** The platform offers intuitive workflows and wizards for tasks like setting up VPN connections, securing cloud resources, and optimizing network performance.
3. **Plug-and-Play Connectivity:** Aviatrix simplifies the connectivity between on-premises and cloud environments. Users can easily establish secure connections using predefined templates.
4. **Become the Hero:** The Aviatrix ACE program empowers architects, engineers, and technical staff to become the heroes of the business.
5. **Vendor-Agnostic:** Aviatrix is vendor-agnostic, meaning it can work with any and every cloud service provider, making it adaptable to different multicloud environments.



[VIEW VIDEO](#)



Why We are Better

While existing networks are failing business-critical apps, Aviatrix Secure Cloud Network is purpose-built for the cloud, resolving the fundamental limitations of cloud networking. We empower enterprises like yours to embed security, accelerate innovation, minimize downtime, and gain control of IT costs.

Become the cloud networking hero of your business.

See how Aviatrix can improve security and resiliency while minimizing cost, skills gap, and deployment time.

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PRODUCT

Aviatrix CoPilot

Aviatrix CoPilot is the management interface for Aviatrix and delivers consistent, centralized, enterprise-grade operational control and troubleshooting capabilities across all cloud environments. Aviatrix CoPilot is the cloud networking and security operations center.

By leveraging Aviatrix CoPilot for improved visibility, organizations can enhance their understanding of their multicloud networks, monitor traffic effectively, and troubleshoot issues efficiently. This leads to improved operational efficiency and better overall network management.



Global Visibility and Control

Manage and monitor your cloud infrastructure seamlessly with Aviatrix CoPilot. We simplify network management regardless of which cloud providers you use. We understand the complexities and costs that come with connectivity issues. Native services often lack telemetry, making problem-solving costly and tricky. Aviatrix CoPilot gives you a centralized solution for transparent paths, easy routing, and top-notch reliability. Our enterprise-grade visibility and control provide valuable insights, reducing complexity and time spent resolving connectivity issues. Join Aviatrix CoPilot to unlock streamlined network management and a clearer path to success.

[VIEW COPILOT DEMO](#)

Design and Manage Multicloud

Take full control of your cloud networking journey with Aviatrix. Regarding Aviatrix, our focus is on empowering our customers to manage their cloud networking environment, specifically the Aviatrix controller. We want to clarify that we do not manage or have access to our customers' actual data. Our role is to provide a comprehensive and robust platform that enables efficient management and control over the cloud network architecture.

[HOW TO BUILD](#)


Operations and Troubleshooting



Dynamic Topology Mapping

Deliver a consistent view of your entire cloud network updated in real-time.



Diagnostic & Troubleshooting

Diagnostic and Troubleshooting Tools are accessed directly from the topology map, including packet capture, ping, traceroute, and network interface stats.



Topology Relay

Leverage Topology Replay to go back in time and see what changed and who changed it.

Embedded Security Visibility and Control



Traffic Flow Visibility

Visualizing traffic flows as a Geolocation Heat Map gives security teams a unique view of where traffic is coming from or going.



Threat Detection and Mitigation

Highlights any communication with known malicious IP addresses and can automatically apply blocking rules to mitigate threats. This is only possible if you have a cloud network with embedded security. Solutions that never see the communication will not see most threats.



Secure Egress

Provides centralized and all-inclusive insights into top URLs, IP addresses, and filtering rules on gateways distributed throughout the enterprise cloud network.

Business-Critical Application Uptime, Performance and Cost Optimization



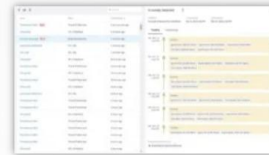
Application Dashboards

To troubleshoot and optimize business



Network Latency with Trending

Reduces data latency and improves performance



Robust Notification Engine

Capable of providing a Robust Notification Engine

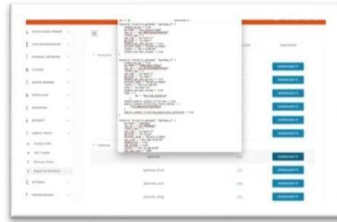
to troubleshooting and optimize business-critical application performance, CoPilot enables the building of custom Intelligent Application Dashboards

reducing data latency enables organizations to make faster business decisions, as high latency levels can slow data processing. Aviatrix delivers secure, high-performance, low-latency cloud networking.

CoPilot provides a robust Notification Engine and provides Webhooks to integrate with alerts with enterprise ticketing processes and systems.

Self-Service Automation

Control Native Cloud Services



Native cloud service providers (CSPs) each have unique automation languages and tools designed to lock customers into their platforms. Many CSPs also support Terraform providers, then offer a subset of functionality to claim openness. Aviatrix delivers a cloud Terraform provider that leverages the Aviatrix Controllers' ability to control native cloud services. The single Terraform provider allows cloud infrastructure teams to write a single Infrastructure as Code module that will work across all clouds and be easily integrated into self-service platforms such as ServiceNow and Crossplane.

All operation workflows performed through the Aviatrix Controller user interface can also be exported as base Terraform code. Aviatrix maintains an online repository of available Terraform modules to help infrastructure operations teams create self-service automation.

Why We Are Better

With CoPilot, organizations can extend their visibility



into complex cloud networks, empowering them to make data-driven decisions for improving performance and security. Additionally, CoPilot dramatically reduces the time and complexity involved in resolving network connectivity issues, freeing up teams to focus on more strategic projects. This level of visibility and control is what sets Aviatrix CoPilot apart from the native services and makes it the ideal solution for multicloud networking management.

CoPilot has many **enhanced features** to simplify operational complexity and reduce enterprise cloud costs.

Bring Cloud Costs into Focus with CostIQ

Reduce IT Spending

Aviatrix CostIQ leverages network flow telemetry built into the Aviatrix Secure Cloud Network. This allows organizations to track the actual network traffic from cost centers (sources) to the shared cloud resource (destination) to create an accurate breakdown of accounts or subscriptions using the shared resources in the public cloud. **Aviatrix CostIQ** provides a simple interface to define cost centers and shared resources.

[VIEW 2-MIN DEMO](#)

 **aviatrix**
Intelligent Cloud Networking™

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Become the cloud networking hero of your business.

See how Aviatrix can improve security and resiliency while minimizing cost, skills gap, and deployment time.

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AWS Client VPN is a fully-managed remote access VPN solution used by your remote workforce to securely access resources within both AWS and your on-premises network. Fully elastic, it automatically scales up, or down, based on demand. When migrating applications to AWS, your users access them the same way before, during, and after the move. AWS Client VPN, including the software client, supports the OpenVPN protocol.

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Better Security & Performance
with AWS VPN *Innovations*

Remote Access with AWS Client VPN (14:44)

Benefits

3:28:21 PM 1/26/2024

Benefits

Advanced authentication

Many organizations require multi-factor authentication (MFA) and federated authentication from their VPN solution. AWS Client VPN supports these and other authentication methods.

Remote access

Unlike on-premises VPN services, AWS Client VPN allows users to connect to AWS and on-premises networks using a single VPN connection.

Elastic

Traditional on-premises VPN services are limited by the capacity of the hardware that runs them. AWS Client VPN is a pay-as-you-go cloud VPN service that elastically scales up or down based on user demand.

Fully managed

AWS Client VPN automatically takes care of deployment, capacity provisioning, and service updates — while you monitor all connections from a single console.

AWS Client VPN use cases

Quickly scale remote access

Unexpected events can require many of your employees to work remotely. This creates a spike in VPN connections and traffic that can reduce performance or availability for your users. AWS Client VPN is elastic, and automatically scales up to handle peak demand. When the spike has passed, it scales down so you are not paying for unused capacity.

Access applications during migration

AWS Client VPN provides users with secure access to applications both on premises and in AWS. This is helpful during a cloud migration when applications move from on-premises locations to the cloud. With AWS Client VPN, users don't have to change the way they access their applications during or after migration.

Integrate with your authentication and MDM systems

AWS Client VPN supports authentication with Microsoft Active Directory using AWS Directory Services: Certificate-based authentication and Federated Authentication using

Securely connecting IoT devices

Create encrypted connections between IoT devices and Amazon Virtual Private Cloud (VPC) resources using certificate-based authentication

– Kazuhiro Shirahase, Director of IT Promotion Division 1, Shionogi Digital Science Co., Ltd.



"KOKUYO is a manufacturing company headquartered in Osaka, Japan, creating more value in places where people 'work', 'learn', and 'live.' With products and services that go beyond KOKUYO's office and school supplies, the business is expanding both in Japan and also across Asia Pacific countries. In February 2020, when the COVID-19 pandemic was starting to expand, we identified the need to make changes to our existing VPN environment. Thanks to AWS Client VPN, we were able to support the rapid capacity expansion by replacing the original 550 users on our on-premises environment with 1,000 users on AWS Client VPN in the matter of 10 days. And, we were able to let it scale seamlessly from 1,000 to 4,000 users when needed, which gave us a unique experience with the elastic, scalable nature of the cloud."

– Takashi Yamamura, General Manager, Information Systems, KOKUYO Co., Ltd.



Learn more about product pricing

Simple pricing so it's easy to know what is right for you.

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Start building in the console

Get started building with AWS VPN in the AWS Console.

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Cloud computing with AWS


Amazon Web Services (AWS) is the world's most comprehensive and broadly adopted cloud, offering over 200 fully featured services from data centers globally. Millions of customers—including the fastest-growing startups, largest enterprises, and leading government agencies—are using AWS to lower costs, become more agile, and innovate faster.

Create an AWS Account

Questions about getting started with AWS? [Connect with an expert »](#)



The leading cloud



Most functionality

AWS has significantly more services, and more features within those services, than any other cloud provider—from infrastructure technologies like compute, storage, and databases—to emerging technologies, such as machine learning.

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AWS has significantly more services, and more features within those services, than any other cloud provider—from infrastructure technologies like compute, storage, and databases—to emerging technologies, such as machine learning and artificial intelligence, data lakes and analytics, and Internet of Things. This makes it faster, easier, and more cost effective to move your existing applications to the cloud and build nearly anything you can imagine.

AWS also has the deepest functionality within those services. For example, AWS offers the widest variety of databases that are purpose-built for different types of applications so you can choose the right tool for the job to get the best cost and performance.


AWS has the largest and most dynamic community, with millions of active customers and tens of thousands of partners globally. Customers across virtually every industry and of every size, including startups, enterprises, and public sector organizations, are running every imaginable use case on AWS. The AWS Partner Network ([APN](#)) includes thousands of systems integrators who specialize in AWS services and tens of thousands of independent software vendors (ISVs) who adapt their technology to work on AWS.



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Most secure

AWS is architected to be the most flexible and secure cloud computing environment available today. Our core infrastructure is built to satisfy the security requirements for the military, global banks, and other high-sensitivity organizations. This is backed by a deep set of cloud security tools, with over 300 security, compliance, and governance services and features, as well as support for 143 security standards and compliance certifications.

Fastest pace of innovation

With AWS, you can leverage the latest technologies to experiment and innovate more quickly. We are continually accelerating our pace of innovation to invent entirely new technologies you can use to transform your business. For example, in 2014, AWS pioneered the serverless computing space with the launch of AWS Lambda, which lets developers run their code without provisioning or managing servers. And AWS built Amazon SageMaker, a fully managed machine learning service that empowers everyday developers and scientists to use machine learning—without any previous experience.




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scientists to use machine learning—without any previous experience.



Most proven operational expertise

AWS has unmatched experience, maturity, reliability, security, and performance that you can depend upon for your most important applications. For over 17 years, AWS has been delivering cloud services to millions of customers around the world running a wide variety of use cases. AWS has the most operational experience, at greater scale, of any cloud provider.

Global network of AWS Regions

AWS has the most extensive global cloud infrastructure. The AWS Region and Availability Zone model has been recognized by Gartner as the recommended approach for running enterprise applications that require high availability.

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Powering Customer Innovation


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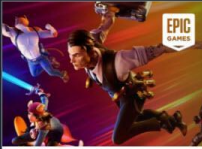
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BMW Group
Streamlining multilingual business processes and reducing translation time by over 75%



Coca-Cola
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Building a data lake to increase analytics productivity by 80%



EPIC GAMES
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Creating cutting-edge entertainment for over 350 million players



NETFLIX
Netflix
Delivering award-winning entertainment to more than 200 million members

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Longest-running Magic Quadrant Leader for CIPS

Gartner has recognized AWS as a Magic Quadrant Leader for Cloud Infrastructure and Platform Services for the 12th straight year.

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Longest-running Magic Quadrant Leader for CIPS

Gartner has recognized AWS as a Magic Quadrant Leader for Cloud Infrastructure and Platform Services for the 12th straight year. AWS placed highest in the Ability to Execute axis of measurement among the eight vendors named in the report.

[Read the Gartner report >](#)

See why Gartner named AWS a CIPS Leader again

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Learn more about cloud computing on AWS

Pricing

AWS offers a pay-as-you-go approach for pricing. Pricing for each service is unique.

[Learn more about AWS pricing »](#)

Products

AWS has over 200 fully featured services for a wide range of technologies, industries, and use cases.

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Global infrastructure

AWS has the most extensive, reliable, and secure global cloud infrastructure.

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Cloud Storage on AWS

Reliable, scalable, and secure storage for your data

Maximize economic advantages by migrating to AWS Cloud Infrastructure

Analyst firm, Enterprise Strategy Group, validated that organizations reduced compute, networking, and storage costs by up to 66% by migrating on-premises workloads to AWS Cloud Infrastructure.

[Read the report](#)

Millions of customers use AWS storage services to transform their business, increase agility, reduce costs, and accelerate innovation. Choose from a broad portfolio of storage solutions with deep functionality for storing, accessing, protecting, and analyzing your data.

Access the storage you need faster

Make resources available in minutes, not weeks. Speed time to market, avoid complex capacity planning, and reduce over-provisioning with just a few clicks.

Reduce storage spend

Minimize your total cost of ownership (TCO) with managed services that eliminate infrastructure maintenance. [Optimize your storage costs](#) based on how frequently and quickly you need to access your data.

Secure and protect your data

[Safeguard your data](#) with unmatched security and storage designed for 99.999999999 (11 9s) of durability and multi Availability Zone resilience. Keep data available to your applications with data

Fuel innovation with new insights


Choose from a variety of tools to get more from your data and accelerate new product and service delivery. Run big data analytics, artificial intelligence (AI), machine learning (ML), high-performance

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Amazon Simple Storage Service (S3)

Object storage with industry-leading scalability, availability, and security for you to store and retrieve any amount of data from anywhere.




Amazon Elastic File System (EFS)

A simple, serverless, elastic, set-and-forget file system for you to share file data without managing storage.

FSX


Amazon FSx

Fully managed, cost-effective file storage offering the capabilities and performance of popular commercial and open-source file systems.



Amazon Elastic Block Store (EBS)


Easy to use, high-performance block storage service for both throughput and transaction-intensive workloads at any scale.



Amazon File Cache


High-speed cache for datasets stored anywhere, accelerate cloud bursting workloads.

Data migration



AWS DataSync

Online data transfer service that optimizes network bandwidth and accelerates data movement between on-premises storage and AWS storage.



AWS Snow Family

Offline data transfer devices with built-in security and logistics features for simplified data migration.

Hybrid cloud storage and edge computing

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Hybrid cloud storage and edge computing



AWS Storage Gateway


Hybrid cloud storage service that gives you on-premises access to virtually unlimited cloud storage.



AWS Snow Family

Edge compute, data collection, and data transfer services with security and end-to-end logistics for mobile and rugged deployments.


Managed file transfer



AWS Transfer Family


Simple and seamless file transfer to Amazon S3 and Amazon EFS using SFTP, FTPS, and FTP protocols.

Disaster recovery and backup



AWS Elastic Disaster Recovery (DRS)

Minimize downtime and data loss with fast, reliable recovery of on-premises and cloud-based applications using affordable storage, minimal compute, and point-in-time recovery.



AWS Backup

Fully managed, policy-based service to centrally manage and automate data protection, compliance, and governance for applications running on AWS.

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Storage use cases

<p>Migrate applications to AWS</p> <p>Lift and shift your existing workloads to AWS quickly using like-for-like storage for simple cloud migration. Move your network-attached storage (NAS), storage area network (SAN), and Hadoop workloads as-is with AWS services, and evolve at your own pace.</p>	<p>Build data lakes</p> <p>Consolidate your data so it's easier to model and analyze. Use Amazon S3 to build a secure, durable, and scalable data lake. Take advantage of its integration with a wide range of services for analytics and ML.</p>	<p>Modernize application development</p> <p>Build cloud-native applications and get to market faster with a microservices architecture and more. Choose AWS storage services that persist and share data from your AWS containers and serverless applications.</p>
<p>Backup to AWS storage</p> <p>Extend secondary storage targets to the cloud to address exponential data growth. Migrate copies of on-premises data to AWS and protect applications already in the cloud with services from AWS and AWS Partners.</p>	<p>Archive to the cloud</p> <p>Meet long-term retention requirements with AWS storage services. Manage compliance and digital preservation with services that provide security, reliability, unlimited scalability, and 99.999999999% durability. Access data faster than on-premises tape.</p>	<p>Process data at disconnected edge locations</p> <p>Run applications in disconnected or ruggedized edge locations with AWS physical devices. Collect and process data and migrate it to the cloud with products that perform in even the most rugged and austere environments.</p>

AWS Storage Blogs

Read AWS Storage blogs for the latest technical guidance and best practices






"With Lyft running on AWS since 2012, we take advantage of the extensive cloud infrastructure to support our exponential growth and support our goal of improving people's lives with the world's best transportation. Teams across the company use thousands of machines on Amazon EC2 and petabytes of data stored in Amazon S3 to ensure our users have the best experience possible."


- Chris Lambert
CTO, Lyft

Customer stories




Snap optimizes cost savings while storing 2 exabytes of data, over 1.5 trillion photos and videos, on Amazon S3 Glacier Instant Retrieval.

[Find out how Snap does it »](#)




Nasdaq used Amazon S3 to build a data lake, allowing them to ingest 70 billion records per day. Nasdaq now loads financial market data five hours faster and runs Amazon Redshift queries 32 percent faster.

[Find out how Nasdaq does it »](#)



Discover Financial used Amazon EFS to build its data science collaboration platform and archives long-term data to Amazon S3 Glacier. Discover cut storage costs by 50 percent and reduced access times for analysis tools from weeks to hours.



Equifax moved its Oracle application suite to Amazon Elastic Compute Cloud (EC2) and Amazon EBS, increasing processing performance by 300 percent. AWS gave Equifax the flexibility and scalability to

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analytics tools from weeks to hours.
[Find out how Discover does it »](#)

Equifax the flexibility and scalability to conduct business globally, ensuring reliable application delivery in multiple countries across the globe.
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Amazon FSx for Lustre

Accelerate compute workloads with a fast, parallel shared file system

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Gain free, hands-on experience with AWS for 12 months

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Azure Elastic SAN ^{PREVIEW}

Elastic SAN is a cloud-native Storage Area Network (SAN) service built on Azure. Gain access to an end-to-end experience like your on-premises SAN.

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Create a pay-as-you-go account

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Experience on-premises SAN capabilities in the cloud

Azure Elastic SAN is a cloud-native service that offers a scalable, cost-effective, high-performance, and comprehensive storage solution for a range of compute options. Get the same simplified management experience in the cloud as with your on-premises storage area network (SAN). Gain higher resiliency and minimize downtime with rapid provisioning.

Azure Elastic SAN is a true cloud-native SAN, now in preview. [Learn more.](#)



Scalability up to millions of IOPS (input/output operations per second), double-digit GBps, and



Data migration with a single block storage solution that supports the iSCSI remote protocol



Unified storage provisioning and multiple volume management through grouping and policy



Management of replication and failover with zone redundant storage (ZRS)

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Scalability up to millions of IOPS (input/output operations per second), double-digit GBps, and single-digit millisecond latencies



Data migration with a single block storage solution that supports the iSCSI remote protocol



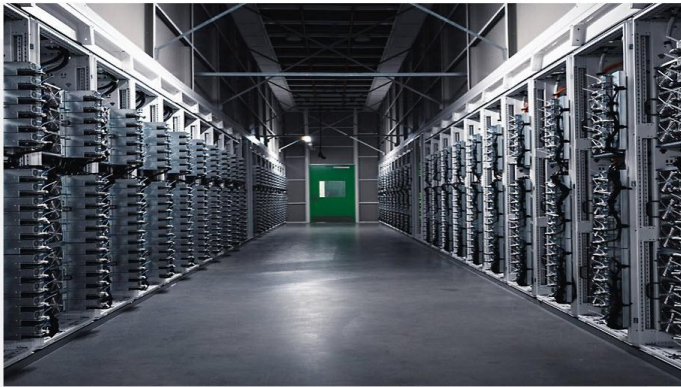
Unified storage provisioning and multiple volume management through grouping and policy enforcement just like your on-premises SAN



Management of replication and failover with zone redundant storage (ZRS)

Simplify management across various compute options

Easily provision, manage, and scale workloads on Elastic SAN with the same end-to-end experience and resource hierarchy as on-premises SAN solutions. Extend storage support beyond Azure Virtual Machines to include Azure Kubernetes Service (AKS), Azure VMware Solution (available at a later date), cloud-native applications, and edge appliances through industry standard interface iSCSI protocols. Set consistent service management configurations at the volume group.



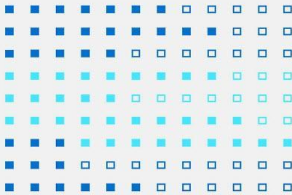
Minimize downtime and maintain business continuity

Avoid costly downtime with zone redundant storage (ZRS) and local redundant storage (LRS) to protect business-critical data and applications that require high availability. Use ZRS for high levels of resiliency without having to set up multiple deployments of SAN arrays and a replication policy. Get synchronous replication across three zones in a region and safeguard your data in the event of a zone failure.



 Microsoft Azure

Skilling
Getting Started with
Azure Elastic SAN

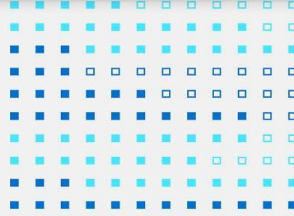


Get started with Azure Elastic SAN

Gain access to an end-to-end experience like your on-premises SAN and breakthrough innovation with Azure Elastic SAN. See how to easily provision, manage, and scale business-critical workloads on Elastic SAN. Learn in-depth about

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Skilling Getting Started with Azure Elastic SAN



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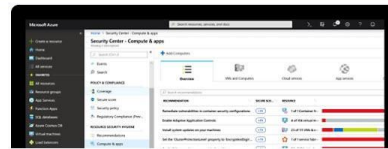
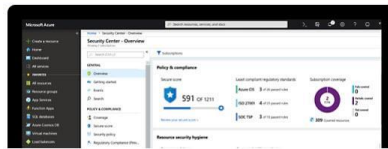
Gain access to an end-to-end experience like your on-premises SAN and breakthrough innovation with Azure Elastic SAN. See how to easily provision, manage, and scale business-critical workloads on Elastic SAN. Learn in-depth about the performance and storage capacity required to scale terabytes of data cost-effectively.

[Watch the video >](#)

Comprehensive security and compliance, built in

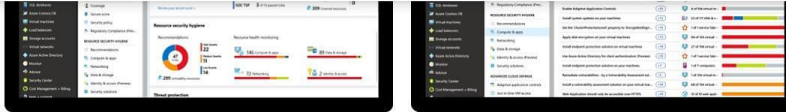
✓ Microsoft invests more than **\$1 billion annually** on cybersecurity research and development.

✓ We employ more than **3,500 security experts** who are dedicated to data security and privacy.



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Control usage and costs with flexible consumption-based pricing

Choose the best combination of base and capacity units for your requirements and optimize price performance. Provision storage capacity and desired performance levels separately. Lower your total cost of ownership (TCO) by purchasing storage capacity and provisioned performance in bulk.

[See Azure Elastic SAN pricing](#)

Get started with an Azure free account




After 12 months, you'll keep getting 55+ always-free services—and still pay only for what you use beyond your free monthly amounts.

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Create Linux and Windows virtual machines (VMs) in seconds and reduce costs

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Access secure, reliable compute capacity

Deploy diverse applications ^

Run apps from SQL Server, Oracle, and SAP to open-source software and high-performance computing.

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[Explore the Azure VM series](#)

Maximize your savings ▾

Scale rapidly and reliably ▾

Ensure robust data security ▾



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Azure VMs for every workload



Automatic scaling

Autoscale up to thousands of VMs according to demand or defined schedules with Virtual Machine Scale Sets.



Accelerated performance

Enhance network and storage performance with the Azure Boost custom hardware and optimized hypervisor design.




Rapid backup and restore

Ensure business continuity with Azure Backup and rapid disaster recovery solutions.

azure.microsoft.com/en-us/products/virtual-machines/


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Automatic scaling

Autoscale up to thousands of VMs according to demand or defined schedules with Virtual Machine Scale Sets.


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Enhance network and storage performance with the Azure Boost custom hardware and optimized hypervisor design.

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Rapid backup and restore

Ensure business continuity with Azure Backup and rapid disaster recovery solutions.




Multiple OS support

Choose from Linux, Windows, and other OS options for a tailored VM experience.



Built-in monitoring and management

Monitor performance in real time and automate VM management using Azure Monitor and Application Insights.



AI and high-performance computing

Create the most cutting-edge AI and performance applications with GPU-enabled and HPC-optimized VMs in Azure.

Built-in security and compliance

Microsoft has committed to [investing \\$20 billion in cybersecurity](#) over five years.

We employ more than [8,500 security and threat intelligence experts](#) across 77 countries.

Azure has one of the largest [compliance certification portfolios](#) in the industry.

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- Reduce costs with term pricing through [Azure Reserved Virtual Machine Instances](#).
- Re-use your on-premises licenses to run Windows and Linux VMs on Azure with [Azure Hybrid Benefit](#).
- Take advantage of [Azure Spot Virtual Machines](#) and scale sets to run workloads at deep discounts.
- Optimize your cloud spend with [Microsoft Cost Management](#).
- Easily Identify the best VM for your workloads with the [virtual machines selector](#) and calculate their costs with the [VM pricing calculator](#).

For more details, visit the [Windows](#) and [Linux](#) VM pricing pages.

See Azure VM pricing

A woman with dark hair, wearing a dark blue jacket over a light green top, is smiling and pointing her right hand towards a large digital display. The display shows a line graph with a red vertical bar and the number '1,304' prominently displayed. The background is a blurred industrial or office setting.

3:48:25 PM 1/26/2024


azure.microsoft.com/en-us/products/virtual-machines/

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RELATED PRODUCTS

Our products work better together


Expand the possibilities of your Azure VMs by integrating them with dozens of Azure services.



Azure Virtual Machine Scale Sets

Dynamically scale and manage virtual machine groups for optimal cost performance and high availability.


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Attach fast, secure, and reliable storage to meet the disk storage needs of your workloads.


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Ensure data resiliency with automated backup and swift restore capabilities.

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Azure Monitor

Gain insights and oversee resources telemetry and analytics, including VM, Azure services.

Learn more

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CUSTOMER STORIES

See how customers are innovating with Azure Virtual Machines

L'ORÉAL

L'Oréal boosts performance with SAP on Azure VMs

SAP on Azure VMs is at the heart of L'Oréal operations and essential tasks such as invoicing, reporting, shipping, and point of sales.

[Read the story](#)





RESOURCES

Get started with Azure Virtual Machines

- Quickstarts
- Learning and documentation
- Migrate to Azure
- Community and support



Documentation



Documentation



Documentation



Documentation

Documentation

Create a Linux VM with the Azure CLI

The Azure CLI is used to create and manage Azure resources via either the command line or scripts.

[Start building](#)

Documentation

Create a Windows VM with the Azure CLI

Learn how to use the Azure CLI to deploy a Windows virtual machine (VM).

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Documentation

Create a Linux VM in the Azure Portal

Learn how to use the Azure portal to deploy a Linux virtual machine.

[Start building](#)

Documentation

Create a Windows VM in the Azure Portal

Learn how to use the Azure portal to deploy a Windows virtual machine in the Azure portal.

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FAQ

[Expand all](#) [Collapse all](#)

01/

What is Azure Virtual Machines?

[+](#)

02/

How do Azure VMs work?

[+](#)

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01/

HOW DO AZURE VMs WORK?

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03/

How are Azure VMs priced?

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04/

Can I try Azure before I buy?

+

05/

How can Azure save me money?

+

06/

How does Azure compare to other cloud providers?

+

07/

How safe is my company's data in the cloud?

+

08/

What are the different virtual machine series offered in Azure?

+

09/

How can I find out which virtual machine best fits my workload?

+

10/

How can I check the regional availability of a specific virtual machine?

+

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Which operating systems do Azure VMs support?

+

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which operating systems do Azure VMs support?

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What disk storage options are available to provision a new virtual machine?

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What networking capabilities are available in Azure Virtual Machines?

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What are availability zones in Azure and what are the benefits?

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What are Azure Virtual Machine Scale Sets and what are the benefits?

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What is Azure Load Balancer and what are the benefits?

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What is Azure Site Recovery and why is it important?

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What Service Level Agreements (SLA) are available for Azure Virtual Machines?

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What tools are available for migrating my on-premises VMs to Azure?

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Which on-premises servers can be migrated to Azure?

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Which on-premises servers can be migrated to Azure?

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Can I use my existing Windows Server or Linux Server licenses on Azure?

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What is a vCPU?


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Do Azure Virtual Machines support symmetric multithreading (SMT)?

+






3:51:03 PM 1/26/2024

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What is cloud migration?

What is a hybrid cloud?

What is AI?

What is IaaS?

What is SaaS?

What is PaaS?

What is DevOps?

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What is PaaS?

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Azure Virtual Network

Create your own private network infrastructure in the cloud.

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Product overviewFeaturesSecurityPricingCustomersPartnersGet startedDocumentation

✓ Build and manage a secure network infrastructure in the cloud

✓ Secure your connections with an IPsec VPN or Azure ExpressRoute

✓ Create sophisticated network topologies using virtual appliances

✓ Bring your own IP addresses and DNS servers

✓ Get granular control over traffic between subnets

✓ Get an isolated and highly secure environment for your applications

Learn how to keep your business-critical workloads running with a more resilient IT infrastructure. Watch Azure IaaS Day digital event on demand. >

Create, connect, and manage your virtual networks in the cloud

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3:39:39 PM 1/26/2024

Create, connect, and manage your virtual networks in the cloud

Find services and resources to seamlessly support your virtual networking and security goals.

Azure Virtual Network
Service to provision private networks

Build an isolated, secure environment to run virtual machines (VMs) and applications.

- Optionally connect to on-premises datacenters for a hybrid infrastructure that you control.
- Bring your own IP addresses and DNS servers.
- Secure connections with an IPsec VPN or ExpressRoute.

Virtual Network peering in Azure
Low-latency resource to securely connect virtual networks

Seamlessly connect virtual networks and send traffic over the Microsoft network. No public internet, gateways, or encryption needed.

- Enforce privacy for global resources on virtual networks.
- Include on-premises networks using Azure high-speed networking.

Azure NAT (Network Address Translation) Gateway
Resource to simplify outbound internet connectivity for virtual networks

Route VM traffic to the internet while keeping VMs and compute resources private.

- Automatically scale IP addresses needed for outbound connectivity.
- Minimize impact to network bandwidth of compute resources using software-defined networking.

Azure Virtual Network Manager
Service to centrally manage virtual networks

Create and manage virtual networks across regions and subscriptions from a single pane of glass.

- Segment virtual networks to define management scope.
- Create and manage hub-and-spoke and mesh networks.
- Enforce security requirements.

Azure Route Server
Service for operations management of network virtual appliances

Enable network appliances to exchange route information dynamically with virtual networks.

- Works with existing or new deployments.
- Eliminates need to manually configure network routes for network virtual appliances, Azure ExpressRoute, and VPN gateways.

Azure Virtual Network container network interface (CNI)
Plug-in to enable containers to use virtual network capabilities

Dynamically assign IP addresses for containers and Kubernetes Pods running in a VM.

- Connect Pods to a virtual network and its resources, other containers, and peered virtual networks.
- Access services protected by virtual network service endpoints.

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endpoints.



Protect data in transit

Add encryption to the Virtual Network default security controls to enhance protection for your data in transit. Learn about [Azure Virtual Network encryption](#).



Enhance security and isolation

Run virtual machines and applications in an isolated and highly secure manner while using private IP addresses. Define subnets and policies to control access.



Rely on the global reach of Azure

Microsoft owns and operates one of the world's largest networks. By default, traffic between Azure resources stays within the Microsoft global network for optimal performance and high reliability. Improve security and reduce latency by avoiding the public internet to pass requests between virtual machines, virtual networks, databases, and other resources.



Build sophisticated network topologies

Create advanced overlay architectures on top of Azure resources and services. Run WAN optimizers, load balancers, and application firewalls in a virtual network and define traffic flows with a high degree of control.



Extend your datacenter to the cloud

Extend your on-premises IT environment to the cloud. Securely connect to a virtual network with an IPsec VPN or a private connection by using Azure ExpressRoute. Authenticate customers for secure access to an on-premises Microsoft Entra ID (formerly Azure Active Directory) service.



Gain flexibility for building apps

Use virtual networks to combine platform as a service (PaaS) and infrastructure as a service (IaaS) resources to reduce network complexity when building or running apps.



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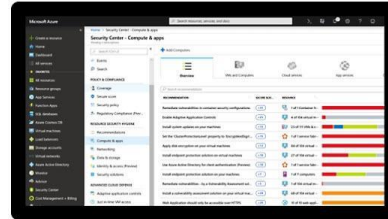
Manage virtual networks at scale

Reduce operational overhead by centrally managing your virtual network resources. Create and manage network security rules globally across subscriptions and regions. Manage the configurations for your entire environment from one place. Simplify deployment of configurations to test in specific regions.

Comprehensive security and compliance, built in

✓ Microsoft invests more than **\$1 billion annually** on cybersecurity research and development.

✓ We employ more than **3,500 security experts** who are dedicated to data security and privacy.



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Virtual Network pricing

- No upfront cost
- No termination fees
- Pay for only what you use

[Learn more about Virtual Network pricing](#)

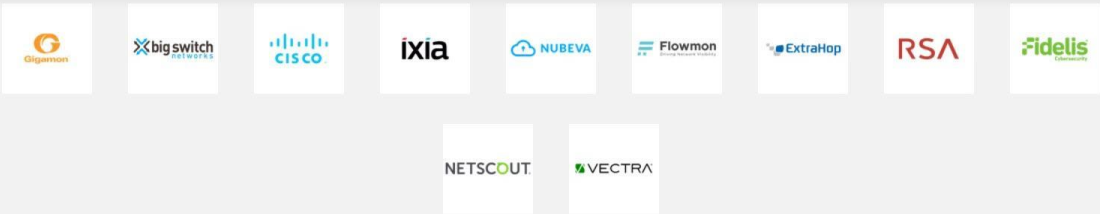
Customers running Virtual Network



Our technology partners

Extend your Azure Virtual Network with solutions from our partners in security, network performance, and monitoring, using Virtual Network Terminal Access Point.


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VPN Gateway

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- ✓ Industry-standard Site-to-Site IPsec VPNs

✓ Point-to-Site VPN access from anywhere

✓ 99.9% uptime SLA for VPN gateways

✓ Highly available and easy to manage

✓ Secure connections from anywhere

Learn how to keep your business-critical workloads running with a more resilient IT infrastructure. Watch the Azure IaaS Day digital event on-demand now. >



Connect your datacenter to Azure

Azure VPN Gateway connects your on-premises networks to Azure through Site-to-Site VPNs in a similar way that you set up and connect to a remote branch office. The connectivity is secure and uses the industry-standard protocols Internet Protocol Security



Connect to your Azure virtual networks from anywhere

Point-to-Site VPN lets you connect to your virtual machines on Azure virtual networks from anywhere, whether you are on the road, working from your favorite café, managing your deployment, or doing a demo for your customers.

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Connect your datacenter to Azure

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Connect to your Azure virtual networks from anywhere

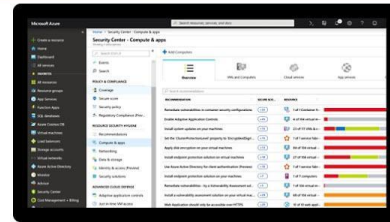
Point-to-Site VPN lets you connect to your virtual machines on Azure virtual networks from anywhere, whether you are on the road, working from your favorite café, managing your deployment, or doing a demo for your customers.

On demand Webinar Miniseries: 8 Ways to Optimize Costs and Maximize Value with Azure IaaS | Watch Now >

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VPN Gateway pricing

- No upfront cost
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- Pay only for what you use

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After your credit, move to **pay as you go** to keep building with the same free services. Pay only if you use more than your free monthly amounts.

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Cloud Storage

Oracle Cloud Infrastructure provides customers with high-performance computing and low-cost cloud storage options. Through on-demand local, object, file, block, and archive storage, Oracle Cloud addresses key storage workload requirements and use cases. Customers can use the storage gateway and data transfer service to safely and securely move their data to the cloud.

ORACLE LIVE

Flexible and Affordable Storage with OCI Storage Services

Oracle Cloud addresses key storage workload requirements and use cases. (46:53)

OCI revenue has grown 76% year over year (Q4 FY2023 earnings). Hear why customers are choosing us.

Get the executive podcast

Simple pricing

Transparent and consistent global pricing lets customers forecast cloud storage spend easily, without requiring pricing formulas to predict their cloud spend.

See pricingCost estimator

The fastest file servers in the public cloud

Use Terraform to automate the creation of IBM Spectrum Scale file servers capable of scaling to 60 GB/s.

Read the blog

Cloud storage evolution that maximizes performance and flexibility

Learn how Oracle Cloud Infrastructure storage options provide highly flexible performance at a low cost, making it easier to migrate enterprise workloads to the cloud.

Watch the webcast (40:14)

Talk to sales

9:47:24 AM 1/29/2024

Why customers choose Oracle Cloud storage

Fast, scalable, and durable cloud storage

OCI storage delivers consistent high performance and scalability. Customers get block volumes that scale up to 1 PB, file storage that can scale up to 8 EB, and local NVMe that scales to 2 TB. Also, Oracle Cloud Infrastructure Object Storage and Archive Storage are backed by an availability service level agreement, offering highly reliable data storage.

[Explore Cloud Storage Options](#)

Advanced block storage

Oracle Cloud Infrastructure (OCI) Block Volume delivers consistent, low-latency performance of up to 300,000 IOPS and 2,680 MB/sec of throughput per volume. Enable dynamic performance scaling with auto-tuning of block volumes. For performance-intensive applications, OCI Block Volume offers up to 700,000 IOPS and 9,600 MB/sec of throughput per host. OCI Block Volume costs approximately 70% less for a 1 TB volume than AWS gp3 at 16,000 IOPS.

[Explore OCI Block Volume](#)

Security-first architecture

Reduce storage risks with Oracle Cloud's security-first design architecture that utilizes built-in tenant isolation, least privilege access, and data encryption at rest. All storage services are integrated into Oracle Identity and Access Management to centrally manage access and permissions.

[Explore Oracle Cloud security](#)

Lower pricing and lower costs

Oracle Cloud Infrastructure Block Storage is 57% less expensive than the competition, and it delivers performance that meets or exceeds their offerings. Oracle's straightforward cloud storage pricing has no provisioning charges, complex pricing formulas, or pricing variances based on geography.

[Explore Oracle Cloud lower costs](#)

Cloud Storage products

Block Volumes

High-performance block storage at any scale



Cloud Storage products

Object Storage

File Storage

All flash local storage

Archive Storage

Data Transfer Appliance

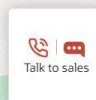
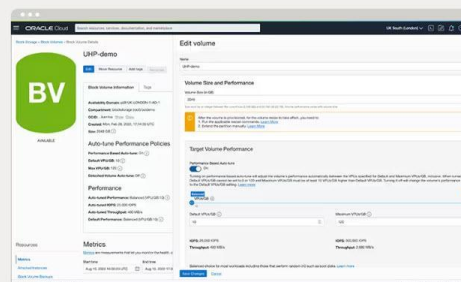
Storage Gateway

We've designed our storage platform as an ideal complement to Oracle compute and networking services to support the highest performance requirements. OCI Block Volume uses the latest NVMe SSDs and provides nonblocking network connectivity to every host. Oracle delivers consistent, low-latency performance of up to 225 IOPS/GB to a maximum of 300,000 IOPS and 2,680 MB/sec of throughput per volume.

[See product details](#)

Features

- Cross-region asynchronous block volume replication
- Consistent high performance
- Dynamic performance scaling with auto-tuning of block volumes
- Scales volumes from 50 GB to 32 TB
- Attach volumes to reach 1 PB per compute instance
- Less than half the price of AWS EBS
- Encryption at rest by default using AES 256
- Encryption in transit supported by TLS 1.2
- Automatic monitoring for data integrity



Block Volumes

Object Storage

File Storage

All flash local storage

Archive Storage

Data Transfer Appliance

Storage Gateway

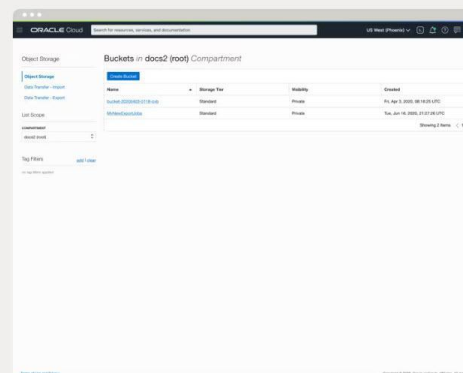
Flexible object storage that scales

Object Storage enables customers to store any type of data in its native format. This is ideal for building modern applications that require scale and flexibility, as it can be used to consolidate multiple data sources for analytics, backup, or archive purposes.

[See product details](#)

Features

- Auto Tiering
- Distributed, durable object storage
- Highly available and scalable
- Access via API, HDFS Plugin, SDK, console, or CLI
- Archive storage option
- Encryption at rest by default using AES 256
- Automatic monitoring
- Self-healing



Oracle Cloud Insider

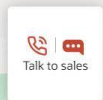


Talk to sales

Storage Gateway

Getting started (05:44) ▶

- Cross-region asynchronous file storage replication
- Snapshot and clone capabilities
- Automatic elasticity without provisioning
- Scalable from kilobytes to 8 exabytes
- Automatic elastic scaling without provisioning
- Highly available, durable filesystems
- Encryption at rest by default using AES 256
- Encryption in transit supported by TLS 1.2
- Support for managing your own encryption keys





Cloud Storage products

Block Volumes

Object Storage

File Storage

All flash local storage

Archive Storage

Data Transfer Appliance

Storage Gateway

Non-Volatile Memory Express (NVMe) for virtual machines and bare metal

Local NVMe SSD storage provides extremely low latency and high performance flash-based storage, which is ideal for workloads that benefit from high-throughput local storage. Oracle Cloud provides up to 51.2 TB of capacity per instance and 5.5M IOPS at low 10 to 100 microsecond latency.

See product documentation

Features

- Available on DenselIO virtual machines and bare metal

- Up to 52 TB of capacity

- 5.5 million IOPS

- Complete customer control



Cloud Storage products

- Block Volumes
- Object Storage
- File Storage
- All flash local storage
- Archive Storage**
- Data Transfer Appliance
- Storage Gateway

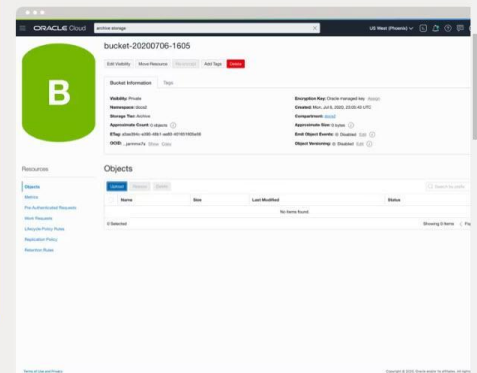
Long-term, low-cost data storage

Archive Storage provides reliable and durable long-term data at one-tenth the cost of Oracle Object Storage, while using the same APIs for easy setup and integration. Data is monitored for integrity, automatically healed, and encrypted at rest.

[See product details](#)

Features

- Easy to use and integrate
- Highly reliable and durable
- No cost for inbound data transfer
- Encryption at rest by default using AES 256
- Automatic monitoring for data integrity



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oracle.com/cloud/storage/#rc30p7

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Storage Gateway

Extend on-premises storage to Oracle Cloud

Storage Gateway lets customers augment and extend on-premises data by bridging their local file systems with Object Storage in Oracle Cloud Infrastructure and is available at no charge.

See product details

Features

- Easily extend local storage to Oracle Cloud
- Simple to use and free of charge

- Scales to 100 million files per file system
- Fully encrypted

Oracle Cloud Insider

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Oracle Cloud Storage accommodates a broad range of customer needs


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AUTOMOTIVE

Cox Automotive saves more than \$4 million annually with OCI

Explore the story

Watch the video (4:02)

JULY 19, 2023

Authentication and authorization for OCI File Storage with Kerberos and LDAP

Featured blogs

JANUARY 18, 2023

Announcing OCI File Storage replication

Talk to sales

9:51:20 AM 1/29/2024

Authentication and authorization for OCI File Storage with Kerberos and LDAP

Aboo Valappil, Technical Product Manager, OCI, and Prashant Jagannathan, Principal Product Manager, OCI

Organizations that use Kerberos and Lightweight Directory Access Protocol (LDAP) for identity management often want to integrate their storage systems for secure centralized authentication and authorization. OCI File Storage can be integrated with Kerberos and LDAP to secure your File Storage-based NFS shares.

[Read the complete post](#)

JANUARY 18, 2023
Announcing OCI File Storage replication

AUGUST 30, 2022
Announcing dynamic performance scaling with autotuning for OCI Block Storage

JULY 29, 2022
Using OCI Object Storage bucket encryption

MARCH 28, 2022
OCI Object Storage validated with IBM Spectrum Scale as low-cost storage tiering layer

MARCH 17, 2022
OCI File Storage service is now VMware certified

Storage reference architectures

[See all reference architectures](#)

Reference Architecture

Extract retail business objects as enterprise canonicals from Oracle Retail

Extract retail business objects as enterprise canonicals from Oracle Retail.

Reference Architecture

Import virtual disk images to Oracle Cloud Infrastructure Block Volumes using Apache Airflow

Facilitate the import of virtual disk image files into Oracle Cloud Infrastructure Block Volumes using Apache Airflow, Functions, Buckets and Events orchestration.

Reference Architecture

Deploy a virtual desktop infrastructure environment on Oracle Cloud VMware Solution

Securely deliver and scale virtual desktop computing environments with scalable Oracle Exadata Database Services for a virtually unlimited VDI deployment.

Built & Deployed

Gas South: Deploy an ETL platform for Oracle Utilities data on Oracle Cloud and Azure

Gas South uses a multicloud strategy on Oracle Cloud and Microsoft Azure to extract, transform, and load (ETL) data from Oracle Utilities Customer Cloud Service.

Customer-inspired



Cloud Storage resources

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- Archive Storage
- Block Volume
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- Oracle Cloud Infrastructure Platform Overview (PDF)
- Oracle Cloud Infrastructure Cloud Essentials (PDF)



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Get the details

Get started with Oracle Cloud Storage

Moving data to Oracle Object Storage

One of the first steps in using Object Storage is to transfer your existing data.

Read more

Block Storage overview on Linux

Learn about Block Volume Storage for Linux on Oracle Cloud Infrastructure.

Watch the video (10:05)

Understanding File Storage performance

Learn about Oracle Cloud File Storage, including read/write performance tuning.

Read the technical brief (PDF)

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Oracle Cloud Infrastructure (OCI) provides fast, flexible, and affordable compute capacity to fit any workload need, from high performance bare metal instances and flexible VMs to lightweight containers and serverless computing.

Try virtual machines for free

New NVIDIA and Ampere (Arm) shapes



Clay Magouyrk
EVP Oracle Cloud Infrastructure


ORACLE

OCI Executive Vice President Clay Magouyrk and AMD CEO Lisa Su discuss the latest compute innovations (4:32)

Get the executive podcast

OCI revenue has grown 76% year over year (Q4 FY2023 earnings). Hear why customers are choosing us.


OCI Compute capabilities



Flexible virtual machines

Select exactly the number of cores and the memory your applications need.


[Explore VMs](#)



Bare metal compute

Delivering high performance for enterprise workloads.


[Explore bare metal](#)



Serverless functions

Simplify application development with serverless compute.


[Explore serverless](#)



Containers and Kubernetes

Your choice of technologies, including containers and Kubernetes.


[Explore containers](#)



GPU instances

NVIDIA GPUs for machine learning, scientific visualization, and other graphics processing.

[Explore GPU instances](#)



HPC instances

Capabilities such as RDMA, high performance storage, and network traffic isolation.

[Explore HPC shapes](#)

Compute customer successes

[Explore all OCI customer stories](#)

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Uber selects OCI's Dense I/O and flexible instances.

Read the Uber announcement

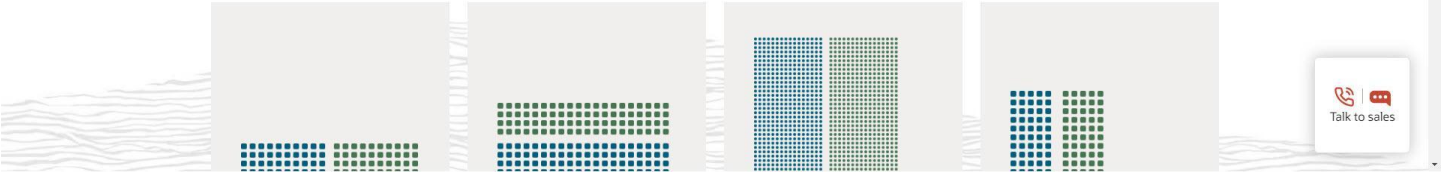
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Compass

Compute services deliver when cloud performance matters



9:38:41 AM 1/29/2024

Up to

94

cores for virtual machines

Up to

192

cores for bare metal instances

Up to

1PB

of block storage per instance

Up to

1x100Gb/sec

of network bandwidth*

* Up to 8x200 Gb/sec of RDMA bandwidth

Compare OCI Compute to other cloud providers

Oracle Cloud Infrastructure consistently delivers better price performance than other cloud providers.



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3X

better compute price performance

20X

higher IOPS/GB for block storage

4.8X

more IOPS/\$ for bare metal instances

44%

lower compute costs for HPC

Compare OCI economics to AWS

Dive deeper into OCI compute, storage, and networking.

Watch on demand

Oracle Cloud Infrastructure's compute services

Virtual machines (VMs)

Flexible VMs

Virtual machine-based shapes offer customizable core and memory combinations. Customers can optimize costs by choosing a specific number of cores and the amount of memory to customize their workload needs.

Dense-IO VMs

VM shapes offer high performance local storage for large databases, big data workloads, and other applications.

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Dense-IO VMs

VM shapes offer high performance local storage for large databases, big data workloads, and other applications.

GPU-accelerated VMs

GPU VM shapes include NVIDIA graphics processors for running hardware-accelerated workloads.

Optimized VMs

Optimized VM shapes provide high frequency processor cores and support for cluster networking.

Dedicated VM hosts

Dedicated VM host shapes offer bare metal instances provisioned with software to host VMs.

Bare metal

Standard bare metal instances

Bare metal instances provide a balance of cores, memory, and network resources.

Dense I/O bare metal instances

Bare metal instances equipped with high-performance local storage and optimized for large databases and big data workloads.

Bare metal GPU instances

Bare metal instances equipped with NVIDIA graphics processors in addition to Intel or AMD processors.

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Bare metal GPU instances

Bare metal instances equipped with NVIDIA graphics processors in addition to Intel or AMD processors.

Bare metal HPC instances

Bare metal instances for high performance computing (HPC) workloads that require high frequency processor cores and cluster networking.

Cloud native and containers

Functions

Oracle Cloud Infrastructure Functions is a serverless platform that lets developers create, run, and scale applications without managing any infrastructure.

Kubernetes

OCI Container Engine for Kubernetes (OKE) is a managed Kubernetes service for operating containerized applications at scale while reducing the time, cost, and operational burden of managing the complexities of Kubernetes infrastructure—including providing a complete serverless experience with virtual nodes. Container Engine for Kubernetes supports the following types of virtual machines, bare metal instances, and GPU instances:

Containers

OCI Container Instances is a serverless compute service that lets you instantly run containers without managing any servers.

Container images

OCI Container Registry is an open standards-based, Oracle-managed Docker registry service for securely storing and sharing container images.

Other services

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Other services

Virtual desktop

Virtual desktops deliver an improved experience and a lower administration cost.

OS images

OCI supports several prebuilt Oracle-provided images and user-created custom images. In addition, Oracle OS Management Service lets you manage updates and patches for the operating system environments on your instances.

VMware-based compute

Oracle Cloud VMware Solution lets you create and manage VMware-enabled, software-defined data centers in OCI. The minimum configuration includes

Compute's consistent and transparent global pricing across regions

With Oracle Cloud Infrastructure (OCI), customers have the same low cloud pricing across all regions and services, enabling predictable spending from proof of concept to full production. Leverage committed use discounts, software license portability, and additional rewards.

Learn more about OCI Compute pricing

Oracle Cloud Infrastructure economics

Superior value

Economical compute

Most flexible

Flex VMs

High performance

General-purpose

Compute intensive

GPU-accelerated

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Superior value

Economical compute

Reduce your costs by matching compute to workload profile with preemptible and burstable instances.

SPECS

VM.Standard.E3.Flex

1 OCPU 1 GB RAM

STARTING FROM

\$0.007/hour

Most flexible

Flex VMs

Increase or decrease CPU or RAM to optimize performance and reduce cost.

SPECS

VM.Standard.A1.Flex

1 GB-64 GB PER OCPU

STARTING FROM

\$0.0115/hour

High performance

General-purpose compute

Balance cores, memory, and network resources.

SPECS

BM.Standard.A1.560

160 OCPU 1,024 GB RAM

STARTING FROM

\$3.136/hour

Compute intensive

GPU-accelerated hardware

Provide servers and VMs with access to NVIDIA GPUs for graphics and AI/ML workloads.

SPECS

VM.GPU1.1

6 OCPU 16 GB RAM

STARTING FROM

\$2.95/hour

JULY 17, 2023

Available now: E5 instances on AMD EPYC processors for up to 2X better performance

Mia Yu, Principal Product Manager

Today, we're excited to announce the general availability of OCI Compute E5 Standard bare metal and virtual machine instances based on the fourth generation of AMD EPYC processors (code-named "Genoa"). Compared to the previous generation of E4 Standard bare metal instances with 128 OCPUs, the E5 Standard bare metal instances have 192 OCPUs (192 cores or 384 threads) with more than 33% better performance per core.

Featured OCI Compute blogs

MAY 1, 2023

First Principles: Eliminating VM downtime with OCI's live migration

MAY 1, 2023

Improve your VM workload availability with OCI's live migration

NOVEMBER 1, 2022

Standards in the cloud with Arm SystemReady Virtual Environment

OCTOBER 19, 2022

Faster large model training with NVIDIA A100 80GB Tensor Core GPU

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per core.

OCTOBER 19, 2022
Protect data in use with OCI Confidential Computing

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Compute reference architectures

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Reference Architecture

Extract retail business objects as enterprise canonicals from Oracle Retail

Extract retail business objects as enterprise canonicals from Oracle Retail.

Reference Architecture

Use enterprise workflow management for Oracle Retail using OCI Process Automation

Use enterprise workflow management for Oracle Retail using OCI Process Automation.

Reference Architecture

Leverage OCI-managed Redis and PostgreSQL for your e-commerce application

Leverage a modern, cloud-native application setup using Oracle Cloud Infrastructure that leverages both Redis for caching and PostgreSQL for transactional data.

Reference Architecture

Import virtual disk images to Oracle Cloud Infrastructure Block Volumes using Apache Airflow

Facilitate the import of virtual disk image files into Oracle Cloud Infrastructure Block Volumes using Apache Airflow, Functions, Buckets and Events orchestration.

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Alliance Data Systems

Running PeopleSoft on OCI



The PeopleSoft solution for Alliance Data Systems

Explore how the leading global provider of loyalty and marketing services migrated PeopleSoft to OCI.

Explore Alliance Data's architecture (8:25)


Understand the business case

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Specialized Bicycle Components

E-Business Suite



The E-Business Suite solution for Specialized Bicycle

Explore how Specialized Bicycle Components, founded on the principle of performance and fueled by innovation, moved E-Business Suite to OCI.

Explore Specialized's architecture (10:41)


Understand the business case

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Sonoco

Multi-App System Architecture with Disaster Recovery



The multi-app architecture for Sunoco

Explore how Sunoco runs its global consumer packaging and industrial products business on OCI and Exadata Cloud Service.

Explore Sunoco's architecture (8:48)

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Try 20+ Always Free cloud services, with a 30-day trial for even more

Oracle offers a Free Tier with no time limits on more than 20 services such as Compute, Storage, and Autonomous Database, as well as US\$300 in free credits to try additional cloud

What's included with Oracle Cloud Free Tier?

- AMD and Arm Compute VMs
- 200 GB total block storage
- 10 GB object storage
- 2 Autonomous Databases, 20 GB each
- 10 TB outbound data transfer per month
- 10+ more Always Free services

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Site-to-Site VPN

Site-to-Site VPN offers a simple and secure way to connect your corporate network to Oracle Cloud Infrastructure over your existing internet connection. The data is encrypted using industry-standard encryption algorithms called IPSec and is then tunneled through the public internet for enhanced security and privacy.

OverviewFAQ

Site-to-Site VPN benefits

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On-premises network to Oracle Cloud

Connect your enterprise campus, branch networks, and data centers to Oracle Cloud.

Secure connectivity

Data is encrypted in virtual private network (VPN) tunnels.

Quick setup

No provider negotiations or new circuits required. Use your existing internet connection.

Site-to-Site VPN features

Site-to-Site VPN is a free service with no port hour charges. Data transfer cost is covered under networking cloud pricing.

High availability (HA) support

Both static and dynamic routing (BGP over IPSec connections)

High-performance queries

Granular monitoring and metrics with monitoring service integration

Easy setup in the Oracle console

Both policy-based and route-based configuration

Site-to-Site VPN use cases

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Site-to-Site VPN use cases

Securely connect to Oracle Cloud

Securely connect your existing infrastructure to the cloud by using industry-standard encryption algorithms. IKEv1 is supported today and IKEv2 will be available soon.

Connect to other public clouds

Securely connect to workloads in other providers' cloud services.

Use for a proof-of-concept (POC)

No contracts or commitment. Build as many IPSec tunnels to Oracle Cloud Infrastructure as you want and keep them active as long as you want.


Connect multiple locations to the cloud

Connect your headquarters, branch locations, and private data centers to Oracle Cloud so all of your offices can access applications.

Build redundant connectivity for Oracle FastConnect

Already have Oracle FastConnect? Site-to-Site VPN can provide a redundant connection to Oracle Cloud Infrastructure.

Get started with OCI

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- 10 GB object storage
- 2 Autonomous Databases, 20 GB each
- AMD and Arm Compute VMs
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- US\$300 in free credits for 30 days for even more

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Easily mount expandable storage volumes directly to your cloud servers.

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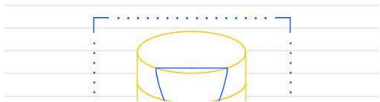
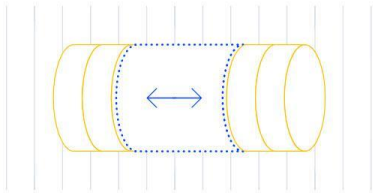
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Makes your VM better

Straightforward, as portable SSDs for a PC, only in the cloud.

Elastic

You can easily manage the capacity by increasing it even after creating a volume. The single-volume size is from 10 GB to 1 TB, and a single VM can mount up to 4 add volumes.



Stable

Storage volumes data replication is higher than the industry's average level, which ensures rapid data recovery, and the data

10 GB 100 GB 1 TB 10 TB 100 TB 1 PB 10 PB 100 PB 1 TB 10 TB 100 TB 1 PB 10 PB 100 PB






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Blazing fast

Enjoy high IO performance block storage for a wide range of workloads.




Resilient and swift

We use the best high-speed disk drives in the cloud market. Their volume expands on-demand in seconds.

Redundant and reliable

Storage volumes are physically isolated from virtual machines, and their data is replicated multiple times.



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Predictable pricing

Check the price for an SSD for your server or ask us for a cloud quote.

Data Storage

10 GB

\$1 /mo

Get started!

Great for

Database storage

Application placement

Database storage

High read/write speed and low latency are ideal for placing various

"A lot of option to customize servers (CPU core, RAM, Storage), really

Great for

Database storage

Application placement

VM space increase

VM space increase

Block storage allows you to add additional disk space to cloud servers on-demand without increasing or decreasing CPU and RAM. This significantly saves server costs.



Some of our clients reviews

"A lot of option to customize servers (CPU core, RAM, Storage), really




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1 Gbps bandwidth	At no charge	Global access points
Use a low latency gigabit network. It is safe and stable.	The service is free of charge. Create up to 10 networks within 1 project.	Build private networks in multiple data centers around the world.

Single-tenant architecture

Your own network that works by your rules.

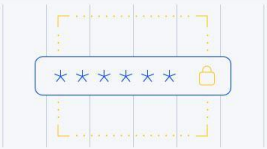
Access control

Enhanced security



Access control

Enhanced security



Access control

Organize private access to your applications and services with no use of public IP addresses. Create a range of IP addresses and subnets by yourself, and give access to your data to a limited number of people.




Automated & simplified

We made all the processes so simple that even a beginner can handle



Access control

Enhanced security



Enhanced security

A private network ensures compliance with most industry security standards. You get the network at your own disposal with no neighbors and a guarantee of your data confidentiality.

<

>


Automated & simplified

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Automated & simplified

We made all the processes so simple that even a beginner can handle them.



Smart addressing


You can choose an automatic address configuration or manually adjust network prefix and capacity.



Creation in seconds

We've optimized the speed of networks creation. They are created so fast, and you won't even have a chance to blink.

Get started



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Some of our clients reviews

"I use this service for Windows 10 server VM with a good service until now, excellent uptime and 0 network or related issues, since the use is not intended for services offers or SaaS/PaaS deployments I don't have any more information about other services you provide."


Juan Bernal

Average Score 4.9 ★★★★★ Reviews 1029

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Learn more

How to create a private network?

How to create a VPC?

Tutorials 📄


How to create a VPC?

After creating the network, click on its name and click «Connect server» in the «Connection» tab. Next select cloud servers that you need to connect to the isolated network and click «Connect».

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ADVANTAGES OF VMWARE

Elimination of Failure Points



SLA 99.9%

As a reliable IAAS provider, we assure consistent infrastructure functionality with a 99.9% availability, as specified in our Service Level Agreement (SLA). Should there be any breach of this agreement, we offer financial compensation to our clients.




VMware ESXi

Leveraging the power of VMware ESXi hypervisor and incorporating VMware DRS and High Availability technologies, our infrastructure is equipped to automatically recover and resume operations in the event of hardware failure. Your cloud computing servers are safe.


Create account




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Fair Billing
Pay every 10 minutes for rented resources, with no hidden charges.



24/7 Support
Receive answers to any questions within 15 minutes via the ticket system.



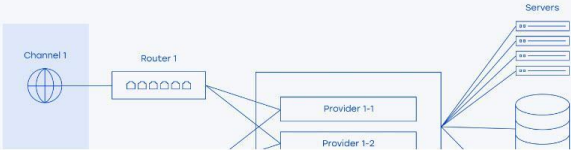
99.99% Uptime SLA
Ensure continuous infrastructure availability with financial guarantees.



Scalability
Feel free to scale your infrastructure with just a few clicks at any time.


BACKUP VIRTUAL MACHINE ESXI

Double redundancy



```
graph LR; Channel1[Channel 1] --- Router1[Router 1]; Router1 --- Provider1-1[Provider 1-1]; Router1 --- Provider1-2[Provider 1-2]; Provider1-1 --- Servers[Servers]; Provider1-2 --- Servers; Servers --- DB[(Database)];
```

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Channel 2

Router 2

Provider 1-2

Data storage

Get started

ENTERPRISE-LEVEL HARDWARE

Cisco & NetApp

Servers

- Intel Xeon Gold 6254 vCPU, 3 GHz.
- ECC DDR4 RAM, operating at 2.6 MHz.
- Up to 64 vCPU cores and 320 GB of RAM.

Network

- Fully redundant hardware for reliability.
- 40 Gbps network capacity.
- Duplicate channels for communication.

Storage

- NetApp AFF arrays for storage.
- Triple replication of data for security.
- High data availability rate of 99.9%.

Begin a journey

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Available instruments

Grow your infrastructure with the additional tools

FAQ

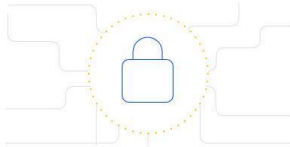
Backup

Firewall

Monitoring

Networks

Serverspace's Managed



Backup

Set up automatic backups easily through the control panel, safeguarding your data against unforeseen events.



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Available instruments

Grow your infrastructure with the additional tools

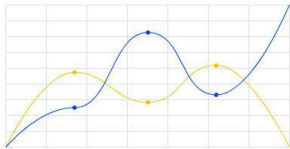
- FAQ
- Backup

Firewall

Monitoring

Networks

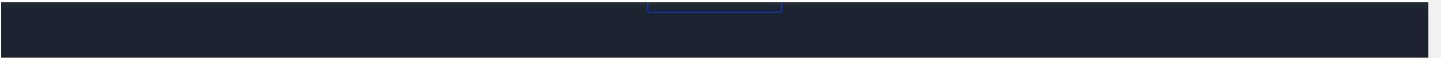
Serverspace's Managed



Monitoring

Track your infrastructure's status live and manage your financial activities efficiently.





Available instruments

Grow your infrastructure with the additional tools

FAQ

- Backup
- Firewall
- Monitoring
- Networks**
- Serverspace's Managed



Networks

Group servers into a private network for business use or connect to the public internet.



- FAQ
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Available instruments

Grow your infrastructure with the additional tools



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Entrust the upkeep and support of your cloud server to our skilled technical team.

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BUILD A CLOUD AND NETWORKS

VMware cloud networks

Create public, routed, and free isolated networks for IT infrastructure operations







Isolated

Isolated local network without access to the Internet with a 1 Gbps channel width.


Routed

Unification of isolated local networks with the ability to access the Internet.

Public

A network with access to the Internet over public IP addresses (IPv4).

Get started



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Go global!

Deploy VMware cloud servers in Europe or Central Asia regions



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Netherlands

The AM2 data center, situated in Amsterdam, Netherlands, stands out as one of Europe's most advanced data centers. It boasts top-tier reliability certifications along with the PCI DSS accreditation.

[Read more](#)



Kazakhstan

Kazteleport is a reliable and technologically advanced data center built using modern engineering methods and practices. The data center is located in Almaty, Kazakhstan.

[Read more](#)

Deploy

VMware server calculator

Choose the number of resources that suits your project.

Template

Windows Svr 2016 x64 (En)

Location

Amsterdam

CPU

1 Core

RAM

1 GB

SSD

40 GB

Backup

Disabled

\$17.5 /mo

\$ 0.024 /hr

Deploy



Users prefer our services due to the ease of managing cloud infrastructure we provide, along with budget-friendly pricing and superior technical support.



New version

Data Center

Launch o


A \$100 C

Boost your cloud services with cutting-edge



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Cloud File Storage

A secure, scalable and low-cost file sharing solution

[Get Started](#)

Contact Sales

Price Calculator



Overview

Benefits

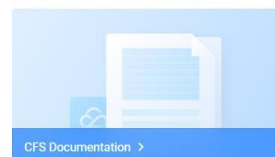
Features

Scenarios

Pricing

Overview

Cloud File Storage (CFS) is a secure and scalable file sharing and storage solution. It can be used in conjunction with Tencent Cloud's servers, container service, and batch computing service. CFS provides multiple computing nodes with high-performance shared storage featuring scalable capacity and performance.



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Get Started

Benefits




Integrated Management

CFS is compatible with POSIX and supports cross-platform access, ensuring the consistency of files and data. Your Cloud Virtual Machine (CVM) instance can access the CFS system using the standard NFS protocol.




Easy to Use

CFS provides a simple and easy-to-learn console interface. Using CFS, you can quickly create, configure and manage a file system, reducing the amount of time spent deploying and maintaining your own network-attached storage (NAS).




Shared Access

Multiple CVMs or container services can share the same CFS system. Computing nodes in different regions can also use the same CFS through a VPC, allowing multiple nodes to coordinate tasks and share files.




Flexible and Scalable

CFS storage capacity scales flexibly without impacting your applications or services. CFS performance increases in accordance with storage size to provide reliable and high-performance services.



Pay-as-you-go

CFS dynamically assigns capacity, does not require upfront payments, and is pay-as-you-go. Because CFS can be accessed by multiple clients, you do not need to purchase other storage solutions.



Secure and Reliable

CFS standard file storage runs with three layers of redundancy and features extremely high availability and reliability. CFS can restrict client permissions using user isolation, network isolation and access allowlists.

Features

NFS Protocols

CFS supports NFS v3.0/4.0 protocols and POSIX APIs, allowing you to run NFS commands to use file systems.

Integrated Management

CFS can be easily managed either in the console or via APIs, enabling you to create and configure file systems

Easy to Use

You can access and use a file system in three simple steps:

- Create a file system and obtain the mount point

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OverviewBenefitsFeaturesScenariosPricing>Get Started

PCCVM

Pricing

Tencent Cloud CFS is pay-as-you-go and does not require upfront payments. In this flexible billing mode, you only pay for what you use. Billing and settlement are performed hourly. [View more >](#)

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Strengths Specification Recommendation Solutions **Success Stories** Getting Started FAQs > [Buy Now](#)

Solution:

With Tencent Cloud's powerful GPU computing power, this solution integrates enterprise-grade rendering, qGPU-based container-level resource splitting and virtualization technologies, video encoding and decoding technologies, and cloud-based streaming solutions. It delivers high computing power for rendering in the cloud, so end users only need to connect to the network to access high-performance rendering. This frees up the resources and storage on end-user devices and delivers a smooth cloud-edge integration experience.

Benefits of cloud deployment:

The cloud native-based solution allows for canary release and rapid launch of your business. Elastic scaling allows you to schedule massive numbers of resources, so you can easily scale your business to adapt to peak and off-peak hours. Combined with the qGPU virtualization sharing technology featuring GPU computing power and VRAM isolation, it can greatly increase GPU utilization while reducing your enterprise costs.

The new-generation Cloud GPU Service provides high-density encoding computing power and a higher network performance. Joining hands with NVIDIA, it is China's first one-stop CloudXR solution and guarantees smooth, lightweight user experience for VR applications.

Related Products

Cloud GPU Service TKE-qGPU COS TRTC

Success Stories

Cloud GPU Service is an elastic computing service that provides GPU computing power and has high-performance parallel computing capabilities. It offers easily accessible computing power, effectively relieving your computing pressure, improving your business efficiency and competitiveness, and empowering your business success.

Ubitus

Ubitus' cloud game service leverages a distributed service-oriented architecture to accelerate high numbers of compute-intensive tasks in the cloud, such

WeBank

WeBank's face recognition-based identity verification technology relies on Cloud GPU Service, which deploys large-scale inference clusters to respond to verification

WeChat

The massive amount of data on WeChat makes the compute resource usage and training time soar. The original CPU clusters generally would need several

numbers of compute-intensive tasks in the cloud, such as multimedia conversion and game image compression. Tencent Cloud provides diverse GPU instance specifications and storage resources to adapt to Ubitus' business load, helping it increase the...

large-scale inference clusters to respond to verification requests in real time. This well solves the biggest problem in financial service efficiency optimization.

original CPU clusters generally would need several hours to complete a training task, seriously compromising the service iteration speed. In contrast, by using multi-instance multi-card distributed GPU training, a task can be completed in minutes now.

Getting Started

Getting Started

Installing CUBA/Getting Started with NVIDIA

Computing Instance

GPU Computing instances provide powerful computing capabilities to...

Rendering Instance

GPU Rendering instances are well-suited for use cases of GPU...

FAQs

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Image

🔗 In what cases should I use a GPU instance?

- 🔗 A GPU has more arithmetic logic units (ALUs) than a CPU and supports large-scale multi-thread parallel computing. It is most suitable for the following use cases:
- AI computing: Deep learning inference and training
 - Graphics and image processing: Cloud game, cloud phone, cloud desktop, and CloudXR
 - High-performance computing: Fluid dynamics, molecular modeling, meteorological engineering, seismic analysis, genomics, etc.

🔗 How do I select a GPU instance model?

- 🔗 You need to select an instance model based on your use case:
- AI training: GN10Xp, GN10X, GT4, GN8, and GN6/GN6S
 - AI inference: GN7, GN10Xp, GN10X, PNV4, GI3X, GN6, and GN6S
 - Graphics and image processing: GN7vw, GNV4, GNV4v, and GI1
 - Scientific computing: GN10Xp, GN10X, GT4, and GI3X
- For more information, see [Computing Instance](#) and [Rendering Instance](#).

🔗 How do I select a driver based on the instance model and scenario?

- 🔗 NVIDIA GPU instance models include physical passthrough instances (having entire GPUs) and vGPU instances (having no entire GPUs, such as 1/4 GPU). The GPU on a physical passthrough instance can use the Tesla or GRID driver (several models don't support the GRID driver) to accelerate computing in different scenarios.
- A vGPU can use only the GRID driver on certain versions to accelerate computing.
- For detailed directions on how to install a driver on an NVIDIA GPU instance, see [Installing NVIDIA Tesla Driver](#).

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❓ Does Cloud GPU Service allow you to adjust the configuration of an instance?

—

Ⓜ GPU instance models PNV4, GT4, GN10X, GN10Xp, GN6, GN6S, GN7, GN8, GNV4v, GNV4, GN7vw, and GI1 support instance configuration adjustment in the same instance family, while GI3X does not support instance configuration adjustment.

❓ What should I do if the resources are sold out when I purchase an instance?

—

Ⓜ You can try the following:

- Change the region
- Change the AZ
- Change the resource configuration

If the problem persists, please [contact us](#).

Tencent Cloud GPU Service

An Ultimate Parallel Computing Capabilities and Professional Computing Acceleration Service. We are committed to providing you with a personalized presales consultation service.

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Virtual Private Cloud

A stable, flexible and secure private network space in the cloud that offers a full range of network solutions

[Get Started](#)

Contact Sales



Overview

Benefits

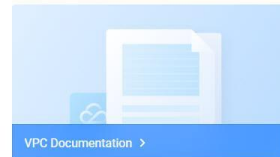
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Scenarios

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Overview

Virtual Private Cloud (VPC) helps you build an independent network space in Tencent Cloud and allows you to customize network segment classification, IP addresses, and routing policies. You can establish VPN tunnels through the public network/Direct Connect to connect the private network to other cloud resources and flexibly deploy hybrid clouds.



Benefits



High Availability

Leveraging sophisticated technologies such as network virtualization, linkage redundancy, primary/secondary gateway and VPC-based cross-availability zone deployment, Tencent Cloud ensures high network availability and comprehensively protects network security and reliability at the linkage, network and IDC levels.



Complete Isolation

Utilizing overlay technology, Tencent Cloud helps you build a completely isolated private network environment with 100% logical isolation among different VPCs, meeting the security isolation needs of your businesses.



Diversified Access

VPC provides you with various network access methods to connect your local IDC to Tencent Cloud resources such as Direct Connect and VPN Connection.



High-performance Internet

Tencent Cloud enables ultra high-performance Internet access through NAT Gateway which supports up to 10 million concurrent connections, helping you easily break through bottlenecks with Internet access performance. Additionally, NAT gateways can be used alongside other Tencent Cloud products such as elastic Load Balance and Anycast Internet Acceleration for an improved business access experience.



Multi-dimensional Security

VPC supports multi-dimensional network security control. VPC allows you to achieve resource access control at the port and instance levels through network ACLs and security groups. It also allows you to grant minimum account permissions through CAM, helping you achieve high network security.



Visual Management

VPC supports the visualization of network topology, which can monitor the network status in real time, set traffic alarms and help you easily, comprehensively and intelligently manage networks together with Flow Logs.



Elastic Scalability

Tencent Cloud supports VPC elastic scaling, eliminating the



Optimal Costs

Most VPC functions are available free of charge, allowing



Service Integration

VPC can be deeply integrated with most Tencent Cloud

VPN Connection and Direct Connect can be used to establish stable and reliable connections between Tencent Cloud computing resources and local IDCs to create a hybrid cloud.

VPN Connection is a service that connects your IDC to VPC through an encrypted public IPsec tunnel, helping you to quickly and securely deploy a hybrid cloud....

Scenarios

◀ Internet of Things (IoT)

In-cloud Business Acceleration

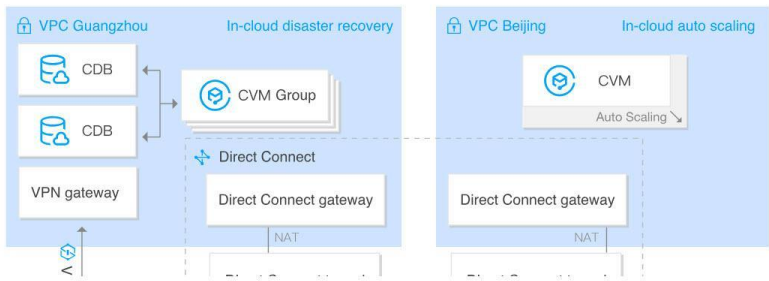
2-region-3-DC Cloud-based Disaster Recovery

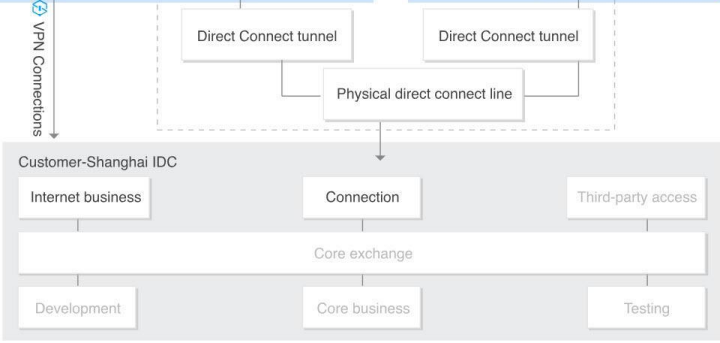
Hybrid Cloud Architecture

Building a Hybrid Cloud Solution

Using Direct Connect or VPN Connection, you can build multiple cloud IDCs in Tencent Cloud and connect them to local IDCs to create a hybrid cloud that supports cloud-based disaster recovery and elastic business deployment.

- VPN Connection/Direct Connect support multi-linkage access.
- Elastic business deployment in the cloud helps you navigate business changes with ease.





Pricing

Virtual Private Cloud (VPC) is free of charge. However, while using VPC, fees for other related products such as NAT Gateway, VPN Connection and Peering Connection may be incurred. [View more.](#)



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U.S. Trademark Application Serial No. 97622822

A USPTO examining attorney has reviewed your trademark application and issued an Office action. You must respond to this Office action to avoid your application abandoning. Follow the steps below.

- (1) **[Read the Office action](#)**. This email is NOT the Office action.
- (2) **Respond to the Office action by the deadline** using the Trademark Electronic Application System (TEAS) or the Electronic System for Trademark Trials and Appeals (ESTTA), as appropriate. Your response and/or appeal must be received by the USPTO on or before 11:59 p.m. **Eastern Time** of the last day of the response deadline. Otherwise, your application will be **[abandoned](#)**. See the Office action itself regarding how to respond.
- (3) **Direct general questions** about using USPTO electronic forms, the USPTO [website](#), the application process, the status of your application, and whether there are outstanding deadlines to the [Trademark Assistance Center \(TAC\)](#).

After reading the Office action, address any question(s) regarding the specific content to the USPTO examining attorney identified in the Office action.

GENERAL GUIDANCE

- **[Check the status](#) of your application periodically** in the [Trademark Status & Document Retrieval \(TSDR\)](#) database to avoid missing critical deadlines.
- **[Update your correspondence email address](#)** to ensure you receive important USPTO notices about your application.
- **[Beware of trademark-related scams](#)**. Protect yourself from people and companies that may try to take financial advantage of you. Private companies may call you and pretend to be the USPTO or may send you communications that resemble official USPTO documents to trick you. We will never request your credit card number or social security number over the phone. Verify the correspondence originated from us by using your serial number in our database, [TSDR](#), to confirm that it appears under the “Documents” tab, or contact the [Trademark Assistance Center](#).

- **Hiring a U.S.-licensed attorney.** If you do not have an attorney and are not required to have one under the trademark rules, we encourage you to hire a U.S.-licensed attorney specializing in trademark law to help guide you through the registration process. The USPTO examining attorney is not your attorney and cannot give you legal advice, but rather works for and represents the USPTO in trademark matters.